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CITY OF WAKEFIELD.

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REPORT ON THE PUBLIC HEALTH

AND

SANITARY STATE

OF THE

CITY OF WAKEFIELD

FOR THE YEAR 1913,

BY

THOMAS GIBSON, M.D., C.M., D.P.H.,

MEDICAL OFFICER OF HEALTH.

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1914.



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## Extract from the Local Government Board Order 1910.

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Article XIX. of the above Order, which prescribed the duties of a Medical Officer of Health, makes the following requirements as to his Annual Report (Sub-section 14).

“He shall as soon as practicable after the Thirty-first day of December in each year make an Annual Report to the Council, up to the end of December, on the sanitary circumstances of the District.”

“In addition to any other matters upon which he may consider it desirable to report, his Annual Report shall contain the information indicated in the following paragraphs; together with such information as We may from time to time require:—

“(a) An account of any influence threatening the health of the District, the prevalence of infectious or epidemic diseases therein, and the measures taken for their prevention.

“(b) An account of all general and special inquiries made during the year.

“(c) An account of the work performed by the Inspector of Nuisances during the year, including the statement supplied in pursuance of Article XX. (16) of this Order.

“(d) A statement as to the conditions affecting the wholesomeness of the milk produced or sold in the District.

“(e) A statement as to the conditions affecting the wholesomeness of foods for human consumption, other than milk, produced or sold in the District.

“(f) A statement as to the sufficiency and quality of the water supply of the District and of its several parts, and in areas where the supply is from waterworks, information as to whether the supply is constant or intermittent.

“(g) A statement as to the pollution of rivers or streams in the District.

“(h) A statement as to the character and sufficiency of the arrangements for the drainage, sewerage and sewage disposal in all parts of the District.

“(i) A statement as to the privy, water closet, and other closet accommodation in the District, including information as to the approximate number of each type of privy and closet.

“(j) A statement as to the character and efficiency of the  
“arrangements for the removal of house-refuse, and the cleansing of  
“earthclosets, privies, ashpits, and cesspools in the District.

“(k) A statement with regard to the housing accommodation  
“of the District as required by Article V. of the Housing (Inspection  
“of District) Regulations, 1910, and an account of any other action  
“taken by the Council under the Housing, Town Planning, etc., Act,  
“1909, bearing on the Public Health.

“(l) A statement as to the vital statistics of the District,  
“including a tabular statement, in such form as We may from time  
“to time direct, of the sickness and mortality within the District.

“(m) Where the Medical Officer of Health is appointed by the  
“Council of a County Borough, or by a Council having delegated  
“powers under the Midwives Act, 1902, a statement as to the  
“administration of that Act in the District.”

## SANITARY DEPARTMENT,

TOWN HALL, WAKEFIELD.

*To His Worship the Mayor, Aldermen, and Councillors of the  
City of Wakefield.*

MR. MAYOR AND GENTLEMEN,—

I beg to submit for your information and consideration a Report on the Public Health and Sanitary State of the City of Wakefield during the year 1913.

With regard to vital statistics you will note and welcome a slight improvement both in the birth and death rates. The infantile death-rate is higher than that of the previous year, which you will remember was the lowest on record for the City, but still is under the average. The zymotic mortality is also comparatively low, and there was a decided drop in the mortality from phthisis.

With regard to infectious diseases, there was an increased prevalence both of Scarlet Fever and Diphtheria, but on the other hand there was a reduction in the prevalence of Measles and Whooping Cough.

In view of new departures with regard to the treatment and control of Tuberculosis, I have thought it advisable to report somewhat fully on the special work which has been done in Wakefield during the year, particularly on the work at the Tuberculosis Dispensary.

The correlated work of medical inspection of school children was carried on as formerly by this Department during the year, and full particulars will be found in the separate report presented to the Education Committee. In this work, as well as in the public health work generally, I have to acknowledge the invaluable help given me by Dr. Shand, who was appointed Assistant Medical Officer of Health early in the year, and I also have to gratefully acknowledge the great and willing assistance rendered by the Chief Sanitary Inspector (Mr. Whitaker), the Assistant Inspectors, Health Visitors, and other members of the Department.

During the year I have also continued to meet with the same hearty co-operation from the Medical Practitioners in the City as they have invariably given me in the past.

To the Chairman and Members of the Sanitary Committee my best thanks are due for the courtesy and consideration which they have extended to me during the year.

I am,

Mr. Mayor and Gentlemen,

Your obedient Servant,

THOMAS GIBSON,

Medical Officer of Health.

12th June, 1914.



## STATISTICAL SUMMARY.

Acreage	...	...	...	...	...	...	4,060
Population (estimated 1st July, 1913)	...	...	...	...	...	...	52,291
Number of Persons per Acre (Census 1911)	...	...	...	...	...	...	13
Number of Persons per House (Census 1911)	...	...	...	...	...	...	4.4
Rateable Value	...	...	...	...	...	...	£223,354
District Rate of 1d. in £1 is equal to	...	...	...	...	...	...	£890
Births	...	...	...	...	...	...	1,212
Birth-rate per 1,000 of Population	...	...	...	...	...	...	24.4
Natural Increase of Population	...	...	...	...	...	...	491
Deaths (Residents)	...	...	...	...	...	...	721
Nett Death-rate per 1,000 of Population	...	...	...	...	...	...	14.5
Deaths (Non-Residents)	...	...	...	...	...	...	328
Infantile Death-rate per 1,000 Births	...	...	...	...	...	...	109
Tuberculosis Death-rate ... per 1,000 of Population	...	...	...	...	...	...	1.33
Phthisis Death-rate	„	„	„	„	„	„	0.8
Respiratory Diseases Death-rate (excluding Phthisis)	„	„	„	„	„	„	3.26
Zymotic Death-rate	„	„	„	„	„	„	0.82
Scarlet Fever Death-rate	„	„	„	„	„	„	0.04
Diphtheria Death-rate	„	„	„	„	„	„	0.12
Enteric Fever Death-rate	„	„	„	„	„	„	0.06
Diarrhoeal Death-rate	„	„	„	„	„	„	0.40
Measles Death-rate	„	„	„	„	„	„	0.06
Whooping Cough Death-rate	„	„	„	„	„	„	0.14
Cancer Death-rate	„	„	„	„	„	„	0.96
Heart Diseases Death-rate	„	„	„	„	„	„	1.57
Number of Cases of Infectious Disease Notified under Infectious Diseases (Notification) Act	...	...	...	...	...	...	296
Number of Cases of Phthisis Notified	...	...	...	...	...	...	107
Rainfall in Inches	...	...	...	...	...	...	22.63
Sunshine in Hours	...	...	...	...	...	...	1,014

## PHYSICAL FEATURES, &c.

The City of Wakefield is the County town of the West Riding of Yorkshire, and is situated in the heart of the Yorkshire Coal Fields. The main axis of the City area runs north and south, and altogether the area covers 4,060 acres. The river Calder passes through the City.

The town is largely of an industrial character, comprising a great variety of trades, such as woollen and worsted factories, iron works, glass bottle works, chemical works, malting and brewing, flour milling, and coal mining. There is a corn and cattle market, the latter a large one, and the City contains several large institutions and public offices, such as the County Hall of the West Riding, the West Riding Lunatic Asylum, H.M. Prison, Clayton Hospital, and the Workhouse and Infirmary of the Wakefield Union.

A full account of the physical features of the City will be found in my Report for the year 1911.

## POPULATION.

The population of Wakefield is estimated by the Registrar-General at the middle of 1913 at 52,291, which represents an increase of 349 on the population of the previous year. The estimation is based on the assumption that the population of the City has since the Census in 1911 increased at the same rate as it did during the ten years preceding the Census.

Whilst the Registrar-General's estimation is used throughout this Report as the basis on which the various mortality and disease rates are calculated, there is a good reason for believing that the population is under estimated, and that the several mortality and other rates are probably lower than those given in the report. For instance during 1913 the natural increase of the population, that is the excess of births over deaths, was 491.

There has, however, undoubtedly been a very considerable immigration of persons into Wakefield since the Census, due to the unwonted industrial prosperity of the City and the neighbourhood, and this of course is an element affecting the estimation of the population of which the Registrar-General does not take cognisance.

A recognised method of estimating the population is that of multiplying the ascertained number of occupied dwelling-houses by the average number of persons per house as ascertained at the Census. This was done at the middle of 1913, and the population obtained



was 53,680, which exceeds the official estimation by 1,389. The data on which this estimation is based are as follows:—

Number of New Houses erected between the date of the Census in 1911 and 15th July, 1913 ... ..	291
Number of Empty Houses (ordinary dwellings) at the date of the Census, 1911 ... ..	235
Number of Empty Houses in the City ascertained in May, 1913 ... ..	28
Number of Houses closed between the date of the Census, 1911, and 15th July, 1913 ... ..	5
Number of additional Houses occupied since the Census, 1911 (that is the number of new houses erected, plus the number of houses empty at the Census, but occupied since, less the number of houses closed) ...	493

The average number of persons per house at the date of the Census was 4.4, and this figure multiplied by 493 gives 2,169 as the increase of population since the Census. This figure added to the Census population (51,511) gives the population in 1913 as 53,680.

There is a further reason for believing the estimated population is too low, and this is the fact that the average number of persons per house appears to have increased since the Census. During the three years 1911, 1912, and 1913, 4,391 dwelling-houses have been inspected by the staff of the Sanitary Department, and these houses were ascertained to have a total population of 22,360, or an average of 5 persons per house. It may be urged that the houses inspected could not be regarded as belonging to the average type of dwelling-houses in the City, but I think they can. About half of the total houses were inspected in the course of health visiting, and these included all kinds of working class dwelling-houses, not specially selected on account of their insanitary or probably overcrowded condition. In fact these houses showed a higher average population than the houses visited in connection with infectious diseases or the houses inspected under the Housing Regulations.

If the additional population is calculated on the basis of 5 persons per house, it works out at 53,976, which I believe is not an over-estimation of the population of the City at the middle of 1913. In fact, if we apply the ratio of 5 persons per house to all the dwelling-houses in the City, the population is approximately 60,000.

The following table gives the estimated population of the wards at the middle of 1913. The figures in the first column include the population of the public institutions. Those in the second column

are exclusive of the non-resident population in public institutions, and are the figures on which the various statistical rates in this Report are calculated.

WARD	Gross Estimated Population.	Net Estimated Population.
St. Johns ... ..	4669	4635
Northgate ... ..	4831	4831
Eastmoor ... ..	6515	4612
Primrose Hill ... ..	5527	5388
North Westgate ... ..	5567	4982
South Westgate ... ..	3717	3717
Kirkgate ... ..	4884	4884
Calder ... ..	4275	4275
Alverthorpe ... ..	4075	4075
Belle Vue ... ..	5519	5519
Sandal ... ..	2712	2712
Whole City ... ..	52291	49630

The population is estimated on the number of new houses erected in each ward, but in order to keep the numbers within the Registrar-General's estimate, the full increase is not given.

#### POPULATION OF PUBLIC INSTITUTIONS (MIDDLE OF 1913).

	W.R. Asylum.	Union Work- house	Clayton Hospital	H.M. Prison	Total
Persons belonging to the City of Wakefield (including all persons admitted from addresses within the City of Wakefield, and all officials, servants, etc., residing on the premises)	380	236	68	9	693
Persons not belonging to the City of Wakefield (including all persons admitted from addresses outside the City of Wakefield)	1903	139	34	585	2661
Total ... ..	2283	375	102	594	3354



POPULATION OF WAKEFIELD AS ASCERTAINED AT THE VARIOUS CENSUS  
PERIODS.

CENSUS.	MUNICIPAL BOROUGH.			ANCIENT PARISH.
	ORIGINAL LIMITS.	AS EXTENDED 9th Nov., 1895, and 9th Nov., 1900.	AS EXTENDED 9th Nov., 1909.	
1911	—	—	51511	—
1901	—	41413	48256	61938
1891	33146	38832	43914	56244
1881	30854	—	—	51140
1871	28069	—	—	43493
1861	23850	—	—	35739
1851	22065	—	—	33117
1841	—	—	—	29992
1831	—	—	—	24538
1821	—	—	—	22307
1811	—	—	—	18474
1801	—	—	—	16597

MARRIAGES.

The number of marriages celebrated in Wakefield during 1913 was 439, or 16 more than in the previous year. The marriage-rate was 17·6 persons married per 1,000 of the population, as compared with an average of 16 persons married during the preceding 10 years. The marriage-rates for the preceding 10 years are as follows:—

1912	...	...	...	16	1907	...	...	...	18
1911	...	...	...	15	1906	...	...	...	16
1910	...	...	...	14	1905	...	...	...	18
1909	...	...	...	17	1904	...	...	...	13
1908	...	...	...	16	1903	...	...	...	21

The marriage-rate is usually influenced considerably by a rise or decline in industrial prosperity, but the good trade enjoyed by the City during the last year or two has not had the effect on the marriage market that one would have expected.

## BIRTHS.

During 1913 the births of 1,223 children were registered as having occurred in the City. Of these 13 were non-resident births, and therefore excluded from the statistics, whilst 2 births which occurred outside the City have to be added. There are therefore 1,212 births to be credited to the City, making a birth-rate of 24·4 per 1,000 of the population, as compared with 23·3 per 1,000 in the previous year. The rate is also somewhat higher than the average for the preceding 6 years (23·7).

TABLE GIVING THE AVERAGE ANNUAL BIRTH-RATE IN EACH OF THE FOUR DECENNIAL PERIODS 1867-1906, AND THE ANNUAL BIRTH-RATES SINCE 1907.

Period.	Birth Rate per 1,000 of Population.
1913	23.1 (24.4)
1912	22.2 (23.3)
1911	23.2 (24.3)
1910	23.1 (24.1)
1909	22.4
1908	24.4
1907	23.9
1897—1906	27.4
1887—1896	29.1
1877—1886	34.0
1867—1876	38.4

NOTE.—The rates within brackets are rates obtained by calculating the resident births on the resident population. The other rates are obtained by calculating the total births registered on the total population.

TABLE SHEWING NUMBER OF BIRTHS AND BIRTH-RATES IN THE WHOLE  
CITY AND WARDS DURING 1913.

WARD.	Total.	Males.	Females.	Illegitimate.	Percentage Illegitimate Births	Birth Rate per 1,000 of population.
St. John's .....	69	33	36	6	8·7	14·8
Northgate .....	117	54	63	13	11·1	24·2
Eastmoor .....	122	65	57	4	3·2	26·4
Primrose Hill.....	153	80	73	11	7·2	28·4
North Westgate.....	122	56	66	3	2·4	24·5
South Westgate.....	94	50	44	5	5·3	25·2
Kirkgate.....	122	64	58	5	4·0	24·9
Calder.....	112	63	49	1	0·8	26·2
Alverthorpe .....	91	48	43	3	3·3	21·3
Belle Vue .....	147	66	81	2	1·2	26·6
Sandal .....	61	31	30	2	3·3	22·1
Resident Births occur- ing outside the City	2	—	2	—	—	—
Whole City .....	1212	610	602	55	4·5	24·4

The birth-rate was highest in Primrose Hill Ward (28·4), and lowest in St. John's Ward (14·8). Northgate Ward had the highest illegitimacy rate, and Calder Ward the lowest.

#### ILLEGITIMACY.

In 1913 the number of illegitimate births was 55, as compared with 50 in the previous year. The percentage of illegitimate among the total births was 4·5, and the illegitimate birth-rate was 1 per 1,000 of the population, which is about the average for the whole country. The average percentage of illegitimate births during the preceding 9 years was 4·6.

1912	...	...	...	4·3	1907	...	...	...	5·1
1911	...	...	...	3·8	1906	...	...	...	6·0
1910	...	...	...	3·3	1905	...	...	...	5·5
1909	...	...	...	4·4	1904	...	...	...	4·1
1908	...	...	...	5·3					



## NOTIFICATION OF BIRTHS.

Under the Notification of Births Act (1907), which was adopted by the Wakefield City Council in 1908, all births have to be reported to the Medical Officer of Health within 36 hours of their occurrence. The object of the Act is to provide the Sanitary Authority with such information of the occurrence of births as will secure the early visiting by the lady health visitors of those homes where skilled advice as to the rearing of infants is likely to be needed. Notification also enables us to assist the County Authority in carrying out their supervisory duties over the midwives. The medical men and midwives practising within the City are kept supplied with stamped letter cards, upon which they either themselves notify the births they attend or hand them to the occupiers of the houses, who in turn fill in the particulars and forward the letter cards to the Sanitary Department.

## NUMBER OF BIRTHS NOTIFIED DURING 1913.

Number notified by medical men	...	...	...	416
„ „ „ midwives	...	...	...	379
„ „ „ head of household or other person				285
Total ...				1,080

157 births (13 per cent.) were not notified. Of these 144 had been attended by medical men, 1 by a resident midwife, 1 by an unregistered midwife, 2 by midwives living outside the City, 1 apparently by neither a doctor or midwife, and with regard to 8 no information could be obtained. The percentage of unnotified births is higher than it has been since the Act came into force, except in the year 1909. The percentage of unnotified births was 14·5 in 1909, 11·5 in 1910, 12 in 1911, and 10 in 1912.

Of 1,080 births, 571 were attended by midwives and 500 were attended by medical men. With regard to 9 no information could be obtained.

## STILL-BIRTHS.

The Notification of Births Act requires the notification of still as well as live births, provided the still-born child has reached the 28th week of pregnancy.

During 1913, 46 still-births were notified, 24 attended by medical men and 22 by midwives.

In order to check the notifications, I have also been supplied by the Curators of the various burial-places in the City with particulars



of all still-born children brought for interment. During 1913, the interment of 51 still-born children were reported from the following burial-places:—

Corporation Cemetery	...	...	...	38
Alverthorpe Church Yard	...	...	...	8
St. John's Church Yard	...	...	...	3
Thornes Church Yard ...	...	...	...	2

12 of the still-born children interred had not been notified, and all had been attended by medical men. In the case of 7 notified still-births no report as to interment was received.

With regard to the dual system of notification and registration of births, it appears to me there is a great need for unification. If the period within which a birth must be registered was reduced from six weeks to, say, three days, and I can see no serious objection to this, the necessity for notification would be done away with. The time indeed seems ripe for a re-consideration of the whole system of certification and registration of both births and deaths. The present system was introduced at a time when public health organisation was in its infancy, and there were probably good reasons for keeping registration apart from public health work. But times have changed. So far at least as the larger urban communities are concerned, there is now much to be said in favour of co-ordinating registration of births and deaths with the Public Health Department.

#### DEATHS.

1,035 deaths were registered in Wakefield during 1913, comprising 707 persons belonging to the City (residents) and 328 persons not belonging to the City (non-residents). Of the non-resident deaths 321 occurred in public institutions (225 in the Asylum, 37 in the Union Infirmary, 50 in the Clayton Hospital, and 9 in the Prison).

14 deaths of Wakefield residents were returned by the Registrar-General as having occurred outside the City, and these, added to the 707 resident deaths registered in Wakefield, make a total of 721 resident deaths. 9 of the deaths registered in Wakefield had no definite address, but have been included amongst the Wakefield deaths. The nett death-rate (i.e. the death-rate obtained by calculating the resident deaths on the total population less the non-residents in public institutions) is 14·5 per 1,000 of the population, as compared with 14·7 in 1912. The death-rate is almost the same as the average for the 96 large English Towns (in which Wakefield is included) for 1913 (14·3). The death-rate obtained by calculating the resident deaths on the total population (as required by the Local Government Board up to 1909) is 13·7 per 1,000 of the population.

The standardised death-rate, which is the nett death-rate multiplied by a factor supplied by the Registrar-General for the purpose of levelling the differences in age and sex constitution in different populations, is 15.1 per 1,000.

Of the 721 resident deaths, 395 were males and 326 females.

All the deaths except two were certified by medical practitioners or by the Coroner.

TABLE SHEWING NUMBER OF DEATHS (RESIDENTS) IN VARIOUS AGE PERIODS DURING 1913 AND DURING 1912.

Age Period.	1913	1912
Under 1 Year... ..	133 (+30)	103
1-2 Years ... ..	45 (-1)	46
2-5 Years ... ..	33 (-8)	41
5-15 Years ... ..	24 (-13)	37
15-25 Years ... ..	28 (-12)	40
25-45 Years ... ..	104 (-7)	111
45-65 Years ... ..	155 (-11)	166
65 Years and over ... ..	199 (+16)	183
All Ages... ..	721 (-6)	727

The above table shows that there were, in 1913, 6 fewer deaths than in 1912. There was a decrease at all age periods, except the first and the last. The increase in the first year of life was mainly due to an increase in the deaths from congenital debility.

The following table gives the principal diseases, which show an increased or diminished mortality in 1913, as compared with 1912.

INCREASED.	DIMINISHED.
Cancer	Measles
Bronchitis	Whooping Cough
Pneumonia.	Phthisis
Diarrhoea	Heart Diseases
Congenital Debility, etc.	Nephritis
Enteric Fever	Puerperal Fever
Scarlet Fever	Influenza.

Respiratory Diseases (including Phthisis) caused 28 per cent. of the total mortality. Respiratory Diseases (excluding Phthisis) caused



22.3 per cent. of the mortality. Pneumonia caused 11.5 per cent., Bronchitis 9.8 per cent., and Phthisis 5.5 per cent. of the mortality. Heart Diseases caused 10.8 per cent., Tubercular Diseases (all kinds) 9.1 per cent., Old Age 7 per cent., Cancer 6.6 per cent., Congenital Debility (including Malformations and Premature Birth) 6.6 per cent., Zymotic Diseases (7 principal zymotic diseases including Diarrhoea) 5.6 per cent., Violent Deaths (excluding Suicides) 3.8 per cent., Diarrhoea 2.7 per cent., Nephritis 3.2 per cent., and Meningitis (non-tubercular) 1.6 per cent. of the total mortality.

During the first year of life the chief causes of death were Congenital Debility (including Congenital Malformations and Premature Birth) 36 per cent., Respiratory Diseases (all kinds) 26.3 per cent., Pneumonia 13.5 per cent., Bronchitis 11.3 per cent., Diarrhoea 6.7 per cent., Whooping Cough 3.7 per cent., Tubercular Diseases (non-pulmonary) 2.3 per cent., and Measles 1.5 per cent.

During the second year of life the chief causes of death were Respiratory Diseases (all kinds) 40 per cent., Pneumonia 24.4 per cent., Diarrhoea 22.2 per cent., Bronchitis 13.3 per cent., and Meningitis (non-tubercular) 6.6 per cent.

Between the second and fifth year of life the chief causes of death were Respiratory Diseases (all kinds) 45.4 per cent., Pneumonia 27.3 per cent., Bronchitis 15 per cent., Tubercular Diseases (non-pulmonary) 15 per cent., Diphtheria 9 per cent., and Violent Deaths 9 per cent.

Between the ages of five and fifteen years the chief causes of death were Tubercular Diseases (all kinds) 20.8 per cent., Violent Deaths 20.8 per cent., Diphtheria 12.5 per cent., Scarlet Fever 8.3 per cent., Pneumonia 8.3 per cent., Meningitis (non-tubercular) 8.3 per cent., and Nephritis 8.3 per cent.

Between the ages 15 and 25 years the chief causes of death were Pulmonary Tuberculosis 28.5 per cent. and Pneumonia 28.5 per cent.

Between the ages of 25 and 45 years the chief causes of death were Tubercular Diseases (all kinds) 25 per cent., Pulmonary Tuberculosis 20.2 per cent., Respiratory Diseases (all kinds) 15 per cent., Pneumonia 11.5 per cent., Nephritis 7.7 per cent., Cancer 6.7 per cent., and Heart Disease 5.7 per cent.

Between the ages of 45 and 65 years the chief causes of death were Heart Disease 21.2 per cent., Respiratory Diseases (all kinds) 20.6 per cent., Cancer 13.5 per cent., Bronchitis 9.6 per cent., Pneumonia 9 per cent., Pulmonary Tuberculosis 5.8 per cent., and Nephritis 5 per cent.

Over 65 years of age the chief causes of death were Old Age 25·6 per cent., Respiratory Diseases (all kinds) 18 per cent., Heart Disease 17·6 per cent., Bronchitis 13·5 per cent., Cancer 10 per cent., and Pneumonia 4·5 per cent.

Of the 721 deaths, 18·4 per cent. occurred during the first year of life, 6·2 per cent. during the second year of life, 4·5 per cent. between 2 and 5 years of age, 3·3 per cent. between 5 and 15 years of age, 3·8 per cent. between 15 and 25 years of age, 14·4 per cent. between 25 and 45 years of age, 21·4 per cent. between 45 and 65 years of age, and 27·6 per cent. over 65 years.

### INQUESTS.

Inquests were held on 73 of the resident deaths, and all except 2 were held in the City.

#### INQUESTS ON RESIDENTS.

Natural Causes (Diseases)	...	...	...	38	
Injuries (Accidental)	...	...	...	21	
„ (Manslaughter)	...	...	...	1	
Drowning (Accidental)	...	...	...	4	
Poisoning (Accidental)	...	...	...	2	
{ Suicide by Drowning	...	...	...	2	} 4
„ „ Hanging	...	...	...	1	
„ „ Decapitation by Railway Train	...	...	...	1	
Starvation and Exposure	...	...	...	1	
Deaths under Anæsthetic	...	...	...	2	

Amongst the accidental deaths were 2 children—aged 4 and 6 years—who died from burning. In one case the child was playing with matches, and in the other the child came into contact with an unprotected fire. Two children, aged 3 years and 8 years, died from scalds, in both cases inflicted by the upsetting of a bucket of boiling water.

One of the cases of accidental poisoning was due to the drinking of liquid ammonia, and the other was a case of ptomaine poisoning, the source of the ptomaine remaining undiscovered.

#### INQUESTS ON NON-RESIDENTS.

Clayton Hospital	...	...	...	...	23
H.M. Prison	...	...	...	...	9
W.R. Asylum	...	...	...	...	5
Workhouse	...	...	...	...	2
				—	
					39
				—	



TABLE SHEWING NUMBER OF RESIDENT DEATHS AND DEATH-RATES IN  
WARDS IN 1913.

WARD.	Number of Deaths.	Death Rates per 1,000 of Population.
St. John's ... ..	64	13·8
Northgate... ..	98	20·2
Eastmoor ... ..	59	12·7
Primrose Hill ... ..	91	16·8
North Westgate ... ..	65	13·0
South Westgate ... ..	57	15·3
Kirkgate ... ..	72	14·7
Calder ... ..	64	14·9
Alverthorpe ... ..	50	12·2
Belle Vue ... ..	65	11·8
Sandal ... ..	36	13·2
Whole City ... ..	721	14·5

It will be noted that the death-rate was highest in Northgate Ward, and lowest in Belle Vue Ward.

In looking through the different parts of Northgate Ward, two localities stand out prominent, namely :—George's Square, in Warren-gate, and New Street. The population of these places was ascertained during the housing inspections, and I find that in 1913 the death-rate in George's Square was 36·5 and in New Street 27·5 per 1,000. 62 per cent. of the New Street deaths took place in the Workhouse.

TABLE SHEWING NUMBER OF DEATHS IN PUBLIC INSTITUTIONS WITHIN  
THE CITY IN 1913.

Institution.	Total.	Residents.	Non-Residents.
W.R. Asylum ... ..	245	20	225
Union Workhouse ... ..	130	93	37
Clayton Hospital ... ..	84	34	50
H.M. Prison ... ..	9	0	9
Corporation Fever Hospital ...	4	4	0
Total ... ..	472	151	321

### INFANTILE MORTALITY.

There were 1,212 births (residents) during 1913, and 133 children under one year of age died during the year. The infantile mortality is, therefore, 109 per 1,000 births.

Of the 133 infants who died 75 were males and 58 were females. 10 were illegitimate, giving an infantile mortality of 182 deaths per 1,000 illegitimate births.

The following table gives the average annual infantile death-rate in Wakefield and in England and Wales in each of the four decennial periods 1870-1909, and in the years 1910-1913.

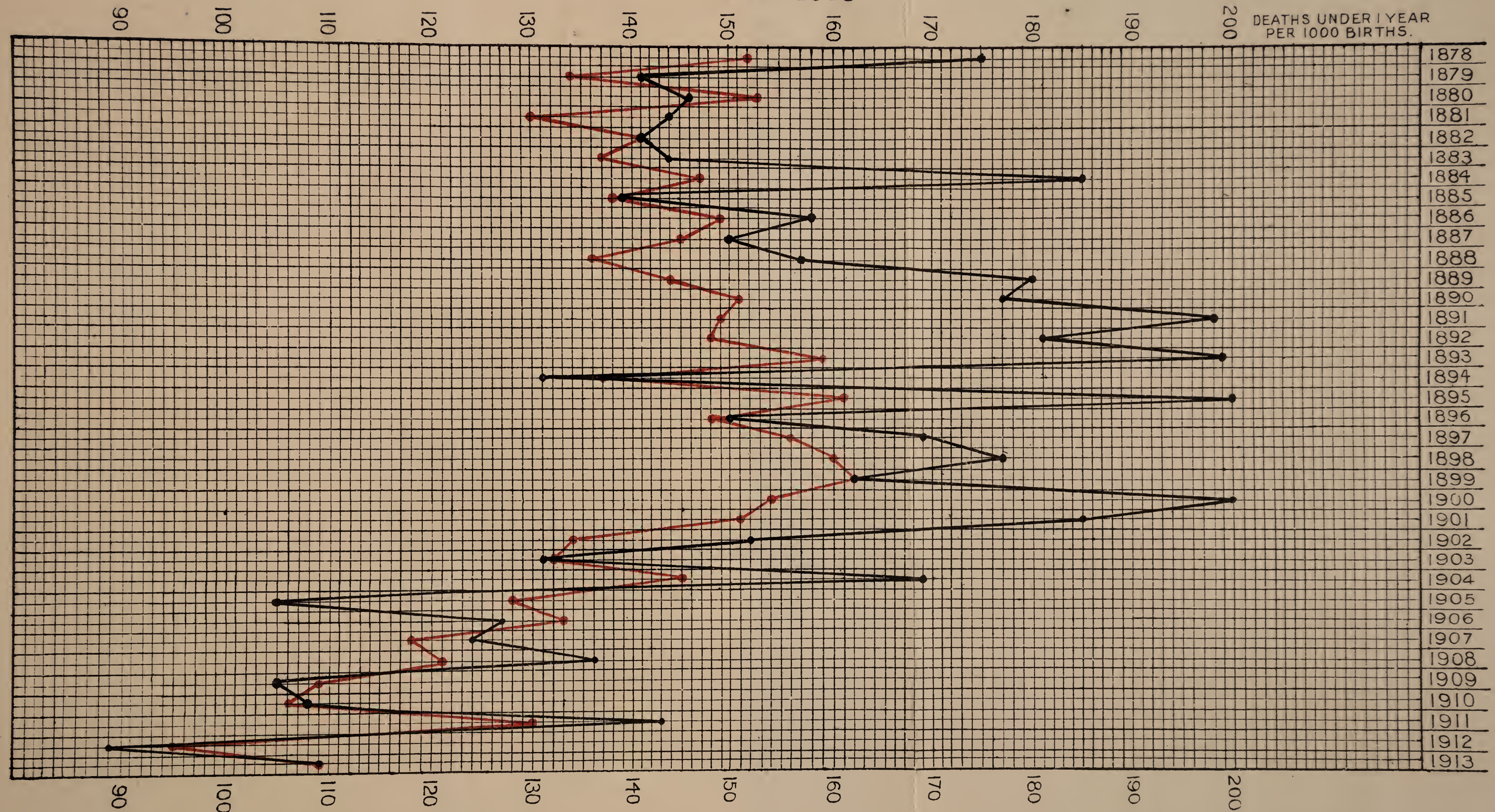
Period.	Average Annual Infantile Death Rate.	
	Wakefield.	England and Wales.
1913	109	109
1912	89	95
1911	143	130
1910	108	106
1900—1909	143	132
1890—1899	175	153
1880—1889	154	142
1870—1879	171	149

TABLE SHEWING INFANTILE DEATH-RATES IN THE MUNICIPAL WARDS  
DURING THE YEARS 1904-1913.

WARD.	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
St. John's ...	72	65	134	76	38	145	100	95	65	135
Northgate ...	145	121	155	} 97	109	124	152	175	109	163
Eastmoor ...	98	65	123							
Primrose Hill ...	189	81	156	122	98	129	147	96	146	198
North Westgate ...	107	115	118	72	112	145	113	117	92	100
South Westgate ...	149	140	169	97	176	165	67	80	107	131
Kirkgate ...	74	58	169	150	93	146	127	115	125	117
Calder ...	45	56	168	141	96	74	103	108	99	221
Alverthorpe...	88	44	182	159	123	184	131	170	74	211
Belle Vue...	102	160	122	} 79	96	97	113	166	84	170
Sandal ...	115	49	86							
Whole City ...	109	89	143	108	105	136	124	127	105	169



# INFANTILE MORTALITY IN WAKEFIELD AND ENGLAND AND WALES. 1878-1913.



BLACK = WAKEFIELD.

ENGLAND AND WALES = RED.





TABLE SHEWING THE INFANTILE MORTALITY IN EACH OF THE FOUR  
QUARTERS OF 1913.

1913.				Infantile Deaths per 1000 Births
1st Quarter	...	...	...	159
2nd Quarter	...	...	...	99
3rd Quarter	...	...	...	76
4th Quarter	...	...	...	103

TABLE SHEWING NUMBER OF CHILDREN DYING IN VARIOUS PERIODS OF  
THE FIRST YEAR OF LIFE IN 1913

Period.				Number of Deaths.	
Under 1 week	...	...	30	}	50
1-2 weeks...	...	...	12		
2-3 weeks ...	...	...	4		
3-4 weeks...	...	...	4		
1-3 months	...	...			22
3-6 months	...	...			30
6-9 months	...	...			12
9-12 months	...	...			19

CAUSES OF INFANTILE DEATHS IN 1913.

Disease.				Number of Deaths.	Percentage.	
Premature Birth ... ..				29	21.7	
Atrophy, Debility & Marasmus				18	13.5	
Bronchitis ... ..				16	12.0	
Pneumonia ... ..				16	12.0	
Diarrhœa and Enteritis ...				9	6.7	
Atelectasis ... ..				7	5.3	
Congenital Malforma- tions.	Congenital Heart Disease			3	7	5.3
	Hydrocephalus ... ..			1		
	Cleft Palate ... ..			1		
	Imperforate Anus ... ..			1		
	Intestinal Atresia ... ..			1		
Convulsions ... ..				5	3.6	
Whooping Cough ... ..				5	3.6	
Tubercular Diseases.	{ Tubercular Meningitis ...			1	3	2.3
	{ Tubercular Enteritis ...			1		
	{ Tubercular Marasmus ...			1		
Gastritis ... ..				3	2.3	
Laryngitis ... ..				1	—	
Laryngismus Stridulus ...				2	—	
Measles ... ..				2	—	
Intussusception... ..				2	—	
Icterus Neonatorum ... ..				1	—	
Acute Pulmonary Congestion...				1	—	
Acute Pemphigus ... ..				1	—	
Dentition ... ..				1	—	
Erysipelas ... ..				1	—	
Syphilis ... ..				1	—	
Suffocation — Overlying ...				1	—	
Injury at Birth... ..				1	—	

REMARKS.

The infantile mortality for 1913 is 14 per 1,000 over that of 1912 (89), but is 15 per 1,000 under the average for the previous ten years (124). In addition to the phenomenally low rate in 1912, the infantile mortality was also lower in 1910 (108), in 1909 (105), and in 1905 (105).



Having regard to the high rate of infantile mortality that used to prevail in the City, the rate for the present year cannot be considered unsatisfactory, and it will be noted that it is exactly the same as that of England and Wales. You will note the very high rate of infantile mortality amongst illegitimate infants—73 per 1,000 over the rate of legitimate infants—which points to a lack of care or actual neglect in many instances.

The mortality rate was highest in the first (159), and lowest in the third quarter of the year (76).

It was highest in Primrose Hill Ward (189), South Westgate (149), and Northgate Ward (145), and lowest in Calder Ward (45), St. John's Ward (72), and Kirkgate Ward (74).

25 per cent. of the deaths occurred during the first week of life, and 38 per cent. during the first month of life. These figures indicate that a considerable amount of mortality occurs before our existing preventative agencies can really be brought into play. Indeed, about 45 per cent. of the mortality was due to Premature Birth and Congenital conditions, which are mainly outside the direct influence of health visiting. It is also not generally realised what a considerable loss of lives and potential lives is occasioned by antenatal causes. It has been calculated that the loss of life through still-births and miscarriages nearly equals the mortality during the first year of life. For instance, it has been estimated that in 1911 there were 96,925 abortions, premature labours, and still-births in England and Wales, and during that year there were 114,600 infantile deaths in the whole country. In Wakefield, during 1913, 46 still-births were reported, but no doubt a considerable number were not reported, whilst all births occurring before a viable age are not reported at all. Probably the number of miscarriages and still-births is at least 11 per cent. of the registered births, and this during 1913 would represent in Wakefield a loss of 132 lives, or almost exactly the number who died during the first year of life. So far as disease is concerned, the great outstanding cause of these antenatal deaths and premature births resulting in death is syphilis. It is now possible by modern scientific methods to diagnose the presence of syphilis with great accuracy, even when obvious clinical signs are absent, and the large amount of research which has been carried out in the past few years confirms and extends the view which has been held for a long time, that syphilis is responsible for an enormous amount of infantile mortality.

It is to be hoped that the Commission which is now enquiring into venereal diseases will be able to offer some practical recommendations for reducing the ravages of this really terrible and up to the present uncontrolled disease.

The deaths from bronchitis and pneumonia were increased, as compared with the previous year, but on the other hand there was a reduction in the number of deaths from tuberculosis and convulsions.

The excessive infantile mortality in Primrose Hill Ward has led me to make the following analysis of the 29 deaths which occurred in 27 houses in that ward.

## CAUSES.

Premature Birth (including two pairs of twins)	8
Malnutrition and Congenital Debility ...	3
Diarrhoea ... ..	3
Pneumonia ... ..	4
Bronchitis ... ..	2
Convulsions ... ..	2
Atelectasis ... ..	1
Acute Pulmonary Congestion ... ..	1
Tubercular Enteritis ... ..	1
Gastritis ... ..	1
Whooping Cough ... ..	1
Intestinal Atresia ... ..	1
Acute Pemphigus ... ..	1

## LOCALITIES.

Kirkgate ... ..	2	Marsland Terrace ...	1
Rhodes' Yard, Kirkgate ...	1	Kay Street ... ..	1
Park Place, Kirkgate ...	1	Sanderson Street ...	1
Hesling's Yard, Charles St.	1	Crystal Place ... ..	2
Armitage's Yard, Charles St.	2	Pincheon Street ...	2
South Street ... ..	3	Scott's Yard, John St.	1
Firth's Yard, Ingwell St.	1	Sun Lane, Warrengate ...	3
Stafford Yard, Ingwell St.	1	Connor's Buildings, Hardy	
William Street ... ..	1	Croft ... ..	1
Wilson's Yard, Park St.	1	Bridge End ... ..	1
Brunswick Street ...	1	Peterson Road ... ..	1

## OCCUPATION OF FATHERS.

Labourers ... ..	7	Glass Blower ... ..	1
Coal Miners ... ..	4	Slater ... ..	1
Scavenger ... ..	1	Painter ... ..	1
Stableman ... ..	1	Engine Driver ... ..	1
Plumber ... ..	1	Platelayer ... ..	1
Iron Moulder ... ..	1	Bill Poster ... ..	1
Warehouseman ... ..	1	Newsagent ... ..	1
Grocer's Assistant ...	1	Draper ... ..	1
Illegitimate ... ..	2		

Although the mortality is very high in this ward, nearly half the deaths are due to premature birth and congenital causes. As is the rule, nearly all the deaths occurred in working-class homes, most of them of the poorer type and situated in a very congested district.



### HEALTH VISITING.

The system of health visiting which has been in force for some years was continued during the year. Each of the three health visitors, all of whom are trained nurses, holding special certificates in knowledge of hygiene, two also having had midwifery training, has charge of a district, in which she carries out duties under (1) The Notification of Births, (2) The Medical Inspection of School Children, and (3) The Tuberculosis Regulations and Tuberculosis Dispensary.

The system of health visiting has been fully described in previous reports, and it continues to be successfully worked.

The total number of home visits made in connection with infants was 6,151, a considerable increase on the previous year.

	Primary Visits	Re-Visits	Total.
District No. 1 (Miss Bell) ...	276	1143	1419
District No. 2 (Miss Holland) ...	325	2521	2846
District No. 3 (Miss Stones) ...	295	1591	1886
Total ...	896	5255	6151

The three visitors—Misses Bell, Holland, and Stones—carried on this work in the most enthusiastic and praiseworthy manner, and I have every reason to believe that it has been highly appreciated by the mothers of the City, who have had the benefit of their skilled guidance. I have also every reason to believe that all this work is exercising a substantial influence for good on the physique of the rising generation, as well as in keeping down the mortality amongst infants.

### FEEDING OF INFANTS.

The health of the infant is greatly influenced by the nature of its feeding. Breast feeding is the natural and best method. Breast-fed infants are, on the whole, stronger and less liable to be attacked by disease than infants raised on cow's milk, and still more so than those fed on artificial foods. The liability to gastric and diarrhoeal diseases is particularly lessened by breast feeding. Therefore, through health visiting, we do all we can to encourage breast feeding, and I am glad to say that the percentage of breast-fed infants in the City is fairly high, and is probably higher than it used to be.



The following facts are taken from the Infant Record Cards for the year 1912—the latest year for which we have completed records:—  
FEEDING OF 784 INFANTS DURING 1912.

FEEDING THROUGHOUT THE FIRST SIX MONTHS OF LIFE (BUT EXCLUDING FIRST WEEK).

Breast Only	...	...	...	...	594
Breast—Cow's Milk	...	...	...	...	81
Breast—Artificial Food	...	...	...	...	27
Cow's Milk Only	...	...	...	...	39
Cow's Milk—Artificial Food	...	...	...	...	1
Artificial Food Only	...	...	...	...	12
Total					754

FEEDING CHANGED FROM BREAST DURING THE FIRST SIX MONTHS OF LIFE (BUT EXCLUDING FIRST WEEK).

To Cow's Milk	...	...	...	...	21
To Artificial Food	...	...	...	...	9
Total					30

The above figures show that out of 784 infants kept under observation during 1912, 76 per cent. were wholly breast-fed during the first six months of life, whilst a further 14 per cent. were partially fed at the breast throughout the first six months. The remaining 10 per cent. were artificially fed, 6 per cent. from the first and 4 per cent. from varying periods during the first six months.

Of the 190 children that were not purely breast-fed, 142 (75 per cent.) were fed on a diet containing cow's milk and 81 (43 per cent.) on breast milk supplemented with cow's milk. It is noteworthy that in a considerable number of cases where the breast milk had proved insufficient, cow's milk had been utilised as an auxiliary supply, whilst the breast feeding was still continued. I think a good deal of this may be attributed to the influence of health visiting. Formerly there used to be a very prevalent idea that combined breast feeding and artificial feeding was injurious, but this erroneous notion is now becoming dissipated. A little of the mother's milk is better than none at all, and even if it has to be confined to night feeding, it should certainly be given so long as the quality is satisfactory.

With regard to the 30 infants who were taken from the breast during the first six months and after the first week, the reasons given for this change were as follows:—11 on account of failure of the

breast milk, 10 on account of the mother's health, 2 on account of the mother's employment outside the home, 2 on account of the mother's leaving home, and in the case of 5 no reason was obtained.

It is most desirable that mothers should not discontinue breast feeding unless absolutely compelled to do so. The tendency of the milk to fail may often be combated by attention to diet, and by the use of certain remedies which have a stimulant effect on the secretion of milk.

The employment of married women outside their own homes is a factor of considerable importance in connection with infant hygiene, and very largely because of its interference with the natural breast feeding of infants. In towns where large numbers of married women are employed in mills, the infantile mortality is generally high. Fortunately in Wakefield, the numbers of married women so employed is not very great.

At the Census in 1911 it was found that out of a total of 20,610 females over 10 years of age, 6,000 were engaged in occupations. Of these 623 were married women, but only 112 were engaged in textile trades. 138 were engaged in various domestic services, including charring, 128 in shopkeeping, bakeries, etc., 54 in dress-making, etc., 91 in lodging-houses, hotels, inns, etc., and 44 in professional and sub-professional occupations (including teaching, nursing, etc.).

### WEANING.

Whilst breast feeding should always be encouraged, the undue protraction of breast feeding may be harmful both to mother and child. Unless there is a special reason for continuing breast feeding, it should certainly be discontinued by the ninth month at the latest. In Wakefield it is a very common practice to delay weaning to a much later date. For instance, only 7 out of the 784 infants referred to above were weaned by the ninth month and only 22 before the end of the twelfth month. All the others were weaned later. In 1912, whilst carrying out medical inspection of infant school children, I obtained information as to the dates of weaning in respect to 313 children. I found that 23 per cent. were weaned by 12 months, 66 per cent. between 12 and 18 months, 9 per cent. between 18 and 24 months, and 2 per cent. over 24 months. As I have said, this large amount of prolonged suckling is bad, and the health visitors are making it their business to advise mothers very particularly on this matter.



## MOTHERS' CLUB.

The Mothers' Club, started in 1912, was successfully continued during 1913. The meetings are held on alternate Mondays, with a break in the middle of summer, and there were 21 meetings held during the year. The average number of mothers attending was 30, the maximum attendance being 65. Altogether 121 mothers, along with their babies, attended during the year.

The Club is managed by Miss Bell, who is assisted at each meeting by one of her colleagues and also by a number of ladies of the City, most of whom have helped from the first. Whenever possible, Dr. Shand or myself looks in to see the babies. The babies are regularly weighed, their weights recorded on cards kept by the mothers, and their condition is noted. General advice as to feeding, etc., is given whenever necessary, and the mothers are advised to consult a doctor, whenever medical treatment seems required. At each meeting a short lecture is given on some subject bearing on the health of infants or domestic hygiene.

The following addresses were given during 1913:—

- |     |                              |     |     |     |                             |
|-----|------------------------------|-----|-----|-----|-----------------------------|
| 1.  | Home Nursing                 | ... | ... | ... | Miss Bennett.               |
| 2.  | Health of Expectant Mother   | ... | ... | ... | Mrs. Lee.                   |
| 3.  | Health of Nursing Mother     | ... | ... | ... | Mrs. Lee.                   |
| 4.  | Sleep                        | ... | ... | ... | Miss Relf.                  |
| 5.  | Feeding of Infants           | ... | ... | ... | Miss Bell.                  |
| 6.  | Weaning                      | ... | ... | ... | Miss Bell.                  |
| 7.  | Teething                     | ... | ... | ... | Miss Holland.               |
| 8.  | Care of Teeth                | ... | ... | ... | Miss Bell.                  |
| 9.  | Measles                      | ... | ... | ... | Dr. Gibson.                 |
| 10. | Summer Diarrhoea             | ... | ... | ... | Miss Stones.                |
| 11. | Whooping Cough               | ... | ... | ... | Dr. Shand.                  |
| 12. | Dangers of the Dummy Teat    | ... | ... | ... | Miss Holland.               |
| 13. | Care of the Eyes             | ... | ... | ... | Dr. Shand.                  |
| 14. | Milk                         | ... | ... | ... | Miss Bell.                  |
| 15. | No Address                   | ... | ... | ... | (Presentation to Mayoress). |
| 16. | Giving the Baby a good start | ... | ... | ... | Dr. Gibson.                 |
| 17. | Health of Expectant Mother   | ... | ... | ... | Mrs. Lee.                   |
| 18. | Feeding of Infants (1)       | ... | ... | ... | Miss Bell.                  |
| 19. | Feeding of Infants (2)       | ... | ... | ... | Miss Bell.                  |
| 20. | Weaning and Teething         | ... | ... | ... | Miss Stones.                |
| 21. | Use and Abuse of Drugs       | ... | ... | ... | Dr. Gibson.                 |

After the address a cup of tea is provided, mainly through the generosity of several ladies and gentlemen who are interested in the work of the Club. The mothers themselves contribute a penny each towards the cost of the tea, but this is optional, and was suggested by



1·09 in the previous and 1·24 the average for the preceding 10 years. The zymotic death-rate is, therefore, well below the average. About half the mortality was caused by Diarrhoea.

1912	...	...	1·09	1906	...	...	1·48
1911	...	...	1·84	1905	...	...	1·06
1910	...	...	1·15	1904	...	...	2·13
1909	...	...	0·39	1903	...	...	1·17
1908	...	...	1·46	1902	...	...	2·35
1907	...	...	0·71	1901	...	...	2·14

#### ZYMOTIC DISEASES AND DEATHS IN 1913.

Zymotic Diseases.				Number of Cases Notified.	Number of Deaths.	Case Mortality, per cent.
Smallpox	...	...	...	1	—	—
Scarlet Fever	...	...	...	148	2	1·3
Diphtheria	...	...	...	103	6	5·8
Enteric Fever	...	...	...	9	3	33·3
Diarrhoea	...	...	...	—	20	—
Whooping Cough	...	...	...	—	7	—
Measles	...	...	...	—	3	—

#### ZYMOTIC MORTALITY IN WARDS IN 1913.

Ward.	No. of Deaths.	Death Rate.
St. John's ... ..	1	0·21
Northgate ... ..	7	1·44
Eastmoor ... ..	6	1·30
Primrose Hill... ..	9	1·67
North Westgate ... ..	3	0·60
South Westgate ... ..	2	0·53
Kirkgate ... ..	4	0·81
Calder... ..	3	0·70
Alverthorpe ... ..	2	0·49
Belle Vue ... ..	3	0·54
Sandal ... ..	1	0·36
Whole City ... ..	41	0·82

It will be noticed that the zymotic mortality was highest in Primrose Hill, Northgate, and Eastmoor Wards, and lowest in St. John's and Sandal Wards.

### SMALLPOX.

One case of Smallpox was notified during 1913. The following are the particulars relating to this case:—

“ On the morning of the 28th April, 1913, I was asked by a medical  
 “ man to see a patient, 24 years of age, residing at Horner's Yard, Kirk-  
 “ gate, Wakefield. The man is coloured, a native of Sierra Leone, but  
 “ had resided in Wakefield for the past 10 years, and is employed as a  
 “ blacksmith's striker, at the Horbury Waggon Works, near to the  
 “ City. He was perfectly well up to Friday, 25th April. On the after-  
 “ noon of that day he felt somewhat unwell, and came home from work  
 “ in the middle of the afternoon. On the following morning an erup-  
 “ tion appeared on his forehead, and spread over his trunk and to a less  
 “ extent over his limbs during the two following days. He was seen by  
 “ two medical men before being reported to me, and both agreed that  
 “ the eruption was highly suspicious of modified smallpox. The patient  
 “ had been vaccinated in childhood, but not re-vaccinated. The con-  
 “ stitutional symptoms were very slight. I agreed with the provisional  
 “ diagnosis, and application was immediately made to the Wakefield  
 “ and District Joint Smallpox Hospital Committee for removal of the  
 “ patient, and, as the smallpox hospital was in the occupation of tuber-  
 “ culous patients, it was arranged to have the case removed to the  
 “ Sandal Fever Hospital, which was previously used for smallpox, but  
 “ has not been occupied by any cases of infectious disease for some  
 “ years. The hospital is, moreover, well removed from dwelling-houses.  
 “ This was done on the afternoon of the same day as the case was noti-  
 “ fied. The house and contents, including clothing of the contacts,  
 “ were then thoroughly disinfected throughout, and the paper stripped  
 “ off the patient's bedroom. The other occupants of the house—a man  
 “ and his wife, with whom the patient lodged—were also re-vaccinated  
 “ on the same day, and the former consented to stop work for the time  
 “ being. Enquiries were made as to the patient's movements during  
 “ the previous three weeks, and during that time, and indeed for several  
 “ months, he does not appear to have been outside the City. The  
 “ enquiries did not lead to any positive or even suspicious source of  
 “ infection, and similar enquiries made by Dr. Garden, Medical Officer  
 “ of Health for Horbury, in whose district the place of the patient's  
 “ employment is situated, and to whom I reported the occurrence, were  
 “ negative. The favourite haunt of the patient appeared to be a gym-  
 “ nasium attached to an inn in Thornes Lane Wharf. This inn  
 “ is frequented a good deal by canal boatman travelling up and down  
 “ the river Calder, and would afford an opportunity for the introduction  
 “ of infection from outside the City. At the same time there is no

“evidence whatever of the disease having been imported in this or in any other way. The possibility of the infection having been conveyed by a letter or package of some kind from the patient's home in West Africa was considered, but no further light was thrown on the subject. After admission to hospital the patient was vaccinated, but unsuccessfully. I may add that this is the first case of the disease notified in Wakefield for seven years. The last case was similarly a slight modified case notified in April, 1906.”

The patient made a good recovery, and no further cases occurred.

It is with considerable misgiving that I note the decline in the vaccination of children, as shown in Table VII. at the end of this Report. In 1902 nearly 93 per cent. of the children were vaccinated. In 1912 the percentage had dropped to about 68 per cent.



SCARLET FEVER.  
SCARLET FEVER STATISTICS, 1875-1913.

Year.	Number of Cases Notified.	Attack Rate per 1000 of population.	Number of Cases Isolated in Hospital.	Percentage of Cases Isolated in Hospital.	Total Case Mortality Percentage.	Case Mortality, Home Percentage.	Case Mortality, Hospital Percentage.	Number of Deaths (Total).	Death Rate per 1,000 of Population.
1913	148	2.83 (2.98)	87	58.7	1.3	0.0	2.2	2	0.03 (0.04).
1912	54	1.03 (1.09)	27	50.0	0.0	0.0	0.0	0	0.00 (0.00).
1911	138	2.67 (2.82)	73	52.9	0.72	0.0	1.5	1	0.02 (0.02)
1910	150	2.92 (3.30)	100	66.6	3.3	2.0	2.6	5	0.09 (0.10).
1909	40	0.92	16	40.0	2.5	0.0	6.2	1	0.02
1908	41	0.95	10	24.4	2.4	3.2	0.0	1	0.02
1907	46	1.07	14	30.5	0.0	0.0	0.0	0	0.00
1906	194	4.54	67	34.5	3.5	2.3	4.6	6	0.14
1905	191	4.51	19	9.9	3.1	3.4	0.0	6	0.14
1904	37	0.88	2	5.4	5.4	5.7	0.0	2	0.05
1903	108	2.58	4	3.7	1.8	1.9	0.0	2	0.05
1902	198	4.75	70	35.3	4.7	5.4	2.8	9	0.21
1901	150	3.71	68	45.3	2.6	4.8	0.0	4	0.09
1900	293	7.5	144	49.0	8.2	8.0	8.3	24	0.62
1899	102	2.6	47	46.0	0.0	0.0	0.0	0	0.00
1898	155	4.1	50	32.3	3.8	3.8	4.0	6	0.15
1897	92	2.4	21	22.8	5.6	5.6	4.7	5	0.13
1896	172	4.6	40	23.2	7.5	7.5	12.5	15	0.4
1895	259	7.5	49	18.9	4.2	4.2	4.0	11	0.32
1894	38	1.1	0	0.0	2.6	2.6	—	1	0.02
1893	78	2.3	0	0.0	2.5	2.5	—	2	0.05
1892	108	3.2	0	0.0	2.7	2.7	—	3	0.08
1891	53	1.3	8	15.0	0.0	0.0	0.0	0	0.00
1890	39	1.1	8	20.5	12.9	12.9	0.0	4	0.12
1889	343	10.2	53	15.4	18.9	18.9	16.9	64	1.9
1888			2					15	0.45
1887			20					15	0.45
1886			6					18	0.55
1885			2					10	0.31
1884			1					11	0.38
1883			7					24	0.77
1882			5					36	1.1
1881			13					18	0.58
1880			3					14	0.42
1879								15	0.46
1878								1	0.03
1877								10	0.33
1876								95	3.06
1875								94	3.13

NOTE.—The rates within brackets are those calculated on the nett population.

During 1913, 148 cases of Scarlet Fever were notified, giving an attack-rate of 2·98 per 1,000, which is two-and-a-half times more than the rate in the previous year (1·09), and is also over the average for the preceding 10 years (2·26).

The incidence of the disease was heaviest during the last six months of the year, during which period three-fourths of the cases occurred, and particularly during the month of July. The incidence was particularly heavy in Belle Vue Ward, and only slightly less so in Sandal Ward. Nearly 30 per cent. of the total cases occurred in the former ward. The incidence was lowest in Alverthorpe Ward. Nearly 60 per cent. of the cases were removed to hospital.

NUMBER OF CASES NOTIFIED IN EACH MONTH AND QUARTER  
OF 1913.

Month.	Number of Cases.	Month.	Number of Cases.
January ...	3	July ...	27
February ...	8	August ...	16
March ...	6	September ...	14
April ...	17	October ...	18
May ...	6	November ...	10
June ...	5	December ...	18

NUMBER OF CASES, ATTACK RATE, AND NUMBER OF DEATHS IN THE  
CITY WARDS.

WARD.	No. of Cases.	Attack Rate per 1,000 of population.	No. of Deaths
St. John's ...	11	2·37	--
Northgate ...	10	2·06	--
Eastmoor ...	14	3·03	--
Primrose Hill ...	9	1·67	--
North Westgate ...	19	3·81	--
South Westgate ...	5	1·34	--
Kirkgate ...	16	3·27	1
Calder ...	5	1·16	--
Alverthorpe ...	3	0·73	--
Belle Vue ...	42	7·61	1
Sandal ...	14	5·16	--
Whole City ...	148	2·8	2

## SEX.

Of the 148 cases, 74 were males and 74 were females.

## NUMBER OF CASES AT AGE PERIODS.

1—5 years	...	...	...	...	34 cases.
5—15	„	...	...	...	100 „
15—25	„	...	...	...	9 „
25—45	„	...	...	...	5 „

## CLASS OF HOUSE INVADED.

All the cases notified occurred in ordinary dwelling-houses as follows:—

Size of House.	Number of Houses invaded.	Percentage of Houses invaded.	Number of Cases.	Percentage of Cases.
2 Roomed ...	11	9·24 per cent	14	9·4 per cent.
3 „ ...	23	19·32 „	28	18·91 „
4 „ ...	49	41·17 „	61	41·21 „
5 „ ...	20	16·80 „	25	16·89 „
6 „ ...	6	5·04 „	7	4·73 „
7 „				
and over ...	10	8·40 „	13	8·71 „

99 houses had one case each, 16 houses had two cases, 3 houses had three cases, and 2 houses had four cases each. Of the 199 houses, 84 were through houses and 35 back-to-back. Most of the invaded houses were free from sanitary defects.

## INTERVAL BETWEEN DATE OF ONSET AND NOTIFICATION.

The interval between the date of onset and date of receipt of notification varied from the same day to 41 days, the average being 4·5 days. Excluding the case that was not notified till six weeks after the onset and two cases not notified till three weeks after the onset, the average interval is just under four days. 59 per cent. of the cases were notified within three days of the onset.

## ISOLATION.

87 cases (58·7 per cent.) were removed to the City Hospital and 61 cases were treated at home. Nearly all the cases removed to hospital were removed within an hour or two of the receipt of the notification. The period of detention in hospital varied from 9 days to 81 days, the average being 33 days.



The period of isolation among the home treated cases (taking the interval between the date of notification and the date of disinfection) varied from 16 days to 49 days, the average being 33 days, exactly the same as in the case of the hospital cases.

All cases that could not be properly isolated at home were removed to hospital, as well as a great many more where the parents wished removal.

#### SECONDARY CASES.

The term "secondary" is applied here to cases of the disease occurring in houses subsequently to primary cases but before the return of primary cases from hospital, or before the disinfection of the houses in the case of home treated cases. During 1913 there were 19 secondary cases (12·8 per cent.) occurring in 15 houses. 12 houses had each one secondary case, 2 houses had each two cases, and 1 house had three cases. 7 cases were related to primary cases removed to hospital, and 12 to primary cases treated at home. Of the 15 houses involved, 1 house had only one combined living and bedroom, 1 house had two rooms, 1 house had three rooms, 6 houses had four rooms, 2 houses had five rooms, 1 had six rooms, and 3 had over six rooms.

#### INTERVALS BETWEEN THE ONSETS OF PRIMARY AND SECONDARY CASES.

1 day	...	...	1 case	15 days	...	...	2 cases
2 days	...	...	1 „	21 „	...	...	1 case
3 „	...	...	2 cases	27 „	...	...	1 „
6 „	...	...	1 case	30 „	...	...	1 „
7 „	...	...	2 cases	32 „	...	...	1 „
10 „	...	...	2 „	35 „	...	...	1 „
12 „	...	...	2 „	36 „	...	...	1 „

#### INTERVALS BETWEEN REMOVAL OF PRIMARY CASES TO HOSPITAL AND ONSET OF SECONDARY CASES.

Same day	...	...	2 cases.	4 days	...	...	1 case.
1 „	...	...	1 case.	10 „	...	...	1 „
3 days	...	...	1 „	22 „	...	...	1 „

#### INTERVALS BETWEEN NOTIFICATION OF PRIMARY CASES (HOME TREATED) AND ONSET OF SECONDARY CASES.

Secondary case sickened	1 day before primary case notified	1 case.
„ „ „	same day as primary case notified	2 cases.
„ „ „	10 days after notification of primary case.	1 case.
„ „ „	11 „ „ „ „	1 „
„ „ „	13 „ „ „ „	2 cases.
„ „ „	18 „ „ „ „	2 „
„ „ „	24 „ „ „ „	2 „
„ „ „	26 „ „ „ „	1 case.

The above figures indicate a rather larger proportion of secondary cases occurring after the notification of the primary case than we usually find. Still 8 out of the 19 cases sickened either before the notification of the primary case or within a week afterwards.

#### RETURN CASES.

By "return" cases I mean cases occurring in houses after the return home from hospital of a case or after the liberation from isolation of a home treated case. I think that the term should be restricted to cases occurring within a month of the liberation of the presumed infecting case. During 1913 there were 9 return cases caused by 6 infecting cases, or 4 per cent. of the total cases, and all except one were related to the hospital. One infecting case gave three return cases, another one gave two return cases, and the other four gave one each.

No.	Register No. of Infecting Case	Where Infecting Case treated	Days of Home or Hospital Isolation	Day of Disease on Discharge from Hospital or Home Isolation	Interval between discharging Case and Onset of Return Case	Condition of Infecting Case on Discharge.	Condition of Infecting Case after Discharge.	HOUSE.				REMARKS
								Rooms		Occupants		
								Total	Bed-rooms	Total	Under 14	
1	29	Hospital	39	34th	5 days	...	No sequelae	2	1	7	4	Over-crowded House do.
2	do.	do.	do.	do.	18 days (12 days after removal of case 1)	do.	do.	2	1	7	4	
3	do.	do.	do.	do.	29 days (10 days after removal of case 2)	do.	do.	2	1	7	4	do.
4	34	do.	32	36th	14 days	No peeling. No discharges	do.	3	2	5	3	
5	93	do.	42	45th	8 "	Residual peeling on soles. No discharges	Developed Sore Throat & Nasal discharge after leaving Hospital	4	2	7	5	
6	do.	do.	do.	do.	12 " (2 days after removal of case 5)	Residual peeling on soles and palms. No discharges	do.	4	2	7	5	
7	117	do.	29	31st	Less than 24 hours	do.	No sequelae	5	3	5	2	
8	156	do.	32	39th	7 days	do.	Developed Nasal discharge after leaving the hospital	2	1	5	3	Over-crowded House
9	143	Home	32	31st	21 "	—	No sequelae	4	2	6	4	



## SCARLET FEVER AND SCHOOLS.

Out of the 148 cases notified, 92 were attending the following public elementary schools:—

Sandal Council (Infant)	...	...	14 cases.
Sandal Council (Mixed) ...	...	...	11 „
Belle Vue Council (Infant)	...	...	7 „
Trinity (Infant) ...	...	...	7 „
St. Andrew's (Infant) ...	...	...	6 „
Wesleyan (Mixed) ...	...	...	5 „
Westgate Council (Junior)	...	...	5 „
Ings Road Council	...	...	4 „
Wesleyan (Infant)	...	...	4 „
Cathedral (Boys')	...	...	3 „
Cathedral (Girls')	...	...	3 „
Trinity (Junior) ...	...	...	2 „
Thornes Lane (Infant) ...	...	...	2 „
St. Michael's (Infant) ...	...	...	2 „
Clarendon Street (Infant)	...	...	2 „
St. Catherine's (Mixed) ...	...	...	2 „
Sandal Endowed (Mixed)	...	...	2 „
Eastmoor Council (Senior)	...	...	1 case.
Eastmoor Council (Junior)	...	...	1 „
Cathedral (Infant)	...	...	1 „
St. Michael's (Boys')	...	...	1 „
St. Austin's (Mixed)	...	...	1 „
St. Austin's (Infant)	...	...	1 „
St. John's (Mixed)	...	...	1 „
St. John's (Infant)	...	...	1 „
Clarendon Street (Girls')	...	...	1 „
Lawefield Lane (Senior)	...	...	1 „
Thornes Lane (Mixed) ...	...	...	1 „

One case was found in examining contacts and although she was peeling had never been medically attended. She was evidently the cause of the notified case.

Another case was reported from school as Measles, but when visited was found to have typical peeling and definite history of scarlet fever.

Another case was found in school by the Health Visitor with definite peeling.

Two cases were found peeling by the teacher. One case was found at the inspection clinic, where she was sent on account of pain in her joints (Scarlatinal Rheumatism).

## DIPHTHERIA.

## DIPHTHERIA STATISTICS, 1890—1913.

Year.	No. of Cases Notified.	Attack Rate per 1000 of population.	No. of Cases Isolated in Hospital.	Percentage of Cases Isolated in Hospital.	No. of Deaths.	Case Mortality per cent.	Death Rate per 1,000 of population.
1913	103	1.95 (2.07)	75	72.8	6	5.4	0.11 (0.12)
1912	68	1.30 (1.38)	51	75.0	7	10.3	0.13 (0.14)
1911	39	0.75 (0.79)	12	30.7	4	10.2	0.07 (0.08)
1910	31	0.60 (0.64)	13	41.9	6	16.1	0.11 (0.12)
1909	69	1.59	24	34.7	5	7.2	0.11
1908	56	1.33	24	42.8	10	17.8	0.23
1907	19	0.44	6	31.5	5	26	0.11
1906	33	0.77	9	27.2	5	16	0.11
1905	27	0.63	1	3.8	8	31	0.19
1904	33	0.78	0	0.0	1	3	0.02
1903	19	0.45	0	0.0	1	5	0.02
1902	24	0.57	2	8.3	2	8	0.05
1901	52	1.25	5	9.6	5	10	0.17
1900	100	2.60	19	19.0	16	16	0.41
1899	20	0.52	1	5.0	6	30	0.15
1898	17	0.45	0	0.0	2	12	0.05
1897	22	0.58	0	0.0	0	0	0.00
1896	20	0.54	0	0.0	5	25	0.13
1895	24	0.70	0	0.0	5	21	0.14
1894	13	0.38	0	0.0	1	8	0.02
1893	26	0.77	0	0.0	4	15	0.11
1892	30	0.89	0	0.0	1	3	0.02
1891	25	0.75	0	0.0	0	0	0.00
1890	44	1.34	0	0.0	1	2	0.03

NOTE:—The figures within brackets are rates calculated on nett population.

DEATH RATE FROM DIPHTHERIA, AND FROM DIPHTHERIA AND CROUP  
COMBINED 1867-1913

Period.	Average Annual Death Rate from Diphtheria per 1,000 of Population.	Average Annual Death Rate from Diphtheria and Croup per 1,000 of Population
1913	0.09	0.11
1912	0.13	0.13
1911	0.07	0.07
1910	0.08	0.11
1909	0.09	0.11
1908	0.20	0.23
1907	0.11	0.11
1897-1906	0.11	0.14
1887-1896	0.06	0.18
1877-1886	0.04	0.19
1867-1876	0.13	0.21

NUMBER OF CASES AND SEX.

During 1913, 103 cases of Diphtheria were notified. Of these 49 were males and 54 females.

NUMBER OF CASES AND DEATHS IN WARDS.

Ward.	Number of Cases.	Attack Rate per 1,000 of Population.	No. of Deaths.
St John's ... ..	6	1.29	—
Northgate ... ..	10	2.07	1
Eastmoor ... ..	11	2.38	1
Primrose Hill ... ..	15	2.78	1
North Westgate ... ..	16	3.21	1
South Westgate ... ..	3	0.80	—
Kirkgate ... ..	10	2.04	1
Calder ... ..	4	0.93	—
Alverthorpe ... ..	4	0.93	—
Belle Vue ... ..	19	3.44	1
Sandal ... ..	5	1.84	—
Whole City ... ..	103	1.9	6



NUMBER OF CASES AT AGE PERIODS.

Age Period.	No. of Cases.
Under 1 Year	2
1—5 Years	25
5—15 „	54
15—25 „	15
25—45 „	7

NUMBER OF CASES NOTIFIED IN EACH MONTH AND QUARTER OF 1913.

January	...	12	} 27	July	...	...	7	} 23
February	...	9		August	...	...	10	
March	...	6		September	...	...	6	
April	...	6	} 21	October	...	...	8	} 32
May	...	9		November	...	...	16	
June	...	6		December	...	...	8	

CONDITION OF THE HOUSES INVADED.

Of the 103 cases, 98 occurred in 83 ordinary dwelling-houses, 3 in the Clayton Hospital (2 patients and 1 nurse), 1 in the Union Infirmary (a nurse) and 1 in the City Fever Hospital (a nurse). 72 houses had one case each, 9 had two cases each, 1 had three cases and 1 had five cases.

Of the 83 houses, 57 were through houses, and 26 were back-to-back. The houses are classified according to the number of rooms in the following list:—

2 Roomed	...	...	...	...	12 houses.
3 „	...	...	...	...	17 „
4 „	...	...	...	...	30 „
5 „	...	...	...	...	13 „
6 „	...	...	...	...	3 „
7 „	and over	...	...	...	8 „

All except 11 were working-class dwellings. All except 6 were provided with ordinary water closets. 3 were provided with privies and 3 were provided with trough water closets.

In 8 houses drainage defects were noted and in 5 other sanitary defects.

### NOTIFICATION.

The period elapsing between the onset of the disease and the receipt of notification varied from the same day to 22 days, the average being 3·6 days. The average period is shorter than usual. 51 per cent. of the cases were notified within three days of the onset.

### BACTERIOLOGICAL EXAMINATIONS.

In 55 cases the diagnosis was confirmed by bacteriological examination of throat or nasal swabs at the County Hall Laboratory. Altogether 360 swabs from suspected diphtheritic cases or from convalescent cases were sent to the Laboratory during the year.

### ISOLATION.

75 cases (72·8 per cent.) were treated at the City Hospital and 28 cases were treated at home. The latter were all cases where the home conditions were suitable for home treatment.

The period of detention of cases in hospital averaged 49 days. The period of isolation in home treated cases, taking the period between the date of notification and the date of disinfection, varied from 12 days to 31 days, the average being 22 days.

### ANTITOXIN.

No applications for Antitoxin were made during the year

### SECONDARY CASES.

There were 15 secondary cases, or 14·5 per cent. of the total. Seven cases were discovered during the examination of the contacts of notified cases. The particulars of the secondary cases are as follows :—

- (1). Female. 4 years. Sickened 7 days after primary case. The primary case was discovered through being reported from school as a case of mumps, and the secondary case was found whilst examining the contacts. No doctor had been called in. Back-to-back house with 3 rooms and 7 inmates.
- (2). Male. 3 years. Sickened 6 days after onset of primary case and 3 days after removal of primary case to hospital. Through house with 4 rooms and 7 inmates.
- (3). Female. 1 year. Same family as No. 2. Sickened 7 days after onset of primary case and 4 days after removal of primary case to hospital. Removed to hospital same day as No. 2.
- (4). Female. 2 years. Sickened 6 days after primary case, but both notified and removed to hospital on the same day. Through house with 5 rooms and 7 inmates.

- (5). Female. 12 years. Sickened 1 day after primary case. Was discovered by Medical Officer on examining the contacts after notification of the primary case. Removed to hospital on the same day as primary case. Through house with 5 rooms and 9 inmates.
- (6). Female. 15 years. Same family as No. 5 and discovered in the same way. Sickened 2 days after primary case and removed to hospital on the same day.
- (7). Female. 17 years. Same family as Nos. 5 and 6 and discovered in same way. Sickened 5 days after primary case and removed to hospital the same day.
- (8). Female. 44 years. Same family as Nos. 5, 6, and 7. Sickened 9 days after primary case and 3 days after the removal of the other four cases to hospital.
- (9). Male. 12 years. Sickened about 14 days after the primary case but both notified on the same day. Through house with 5 rooms and 4 inmates.
- (10). Female. 3 years. Sickened 16 days after onset of primary case and 15 days after removal of primary case to hospital. Back-to-back house with 3 rooms and 6 inmates.
- (11). Female. 17 years. Sickened 3 days after onset of primary case and 6 days after removal of primary case to hospital. Through house with 5 rooms and 7 inmates.
- (12). Female. 11 years. Sickened 6 days after onset of primary case and 3 days after removal of primary case to hospital. Back-to-back house with 3 rooms and 6 inmates.
- (13). Male. 27 years. Sickened about 16 days after the primary case, but the primary case was only discovered on examining the contacts after the notification of the secondary case, and both were removed to hospital on the same day. The primary case here had also probably infected another person living in the neighbourhood. Through house with 5 rooms and 3 inmates.
- (14). Male. 2 years. Sickened 6 days after the primary case and 3 days after the removal of the primary case to hospital. Through house with 4 rooms and 4 inmates.
- (15). Female. 18 years. Sickened 4 days after primary case, but was only discovered when examining the contacts after the notification of the primary case and was removed to hospital on the following day. Through house with 7 rooms and 7 inmates.

#### RETURN CASES.

There were no return cases during 1913.



## DIPHTHERIA AND SCHOOLS.

Out of the 103 cases notified, 60 were in attendance at the following public elementary schools:—

Sandal Council (Infant) ...	...	...	7 cases.
Westgate Council (Junior) ...	...	...	6 „
Belle Vue Council (Infant) ...	...	...	4 „
St. Mary's (Infant) ...	...	...	4 „
Ings Road Council ...	...	...	3 „
Eastmoor Council (Junior) ...	...	...	3 „
Trinity (Infant) ...	...	...	3 „
St. Austin's (Infant) ...	...	...	3 „
Westgate Council (Infant) ...	...	...	2 „
Thornes Lane (Infant) ...	...	...	2 „
Wesleyan (Mixed) ...	...	...	2 „
Clarendon Street (Girls') ...	...	...	2 „
St. Andrew's (Mixed) ...	...	...	2 „
St. Catherine's (Mixed) ...	...	...	2 „
Eastmoor Council (Senior) ...	...	...	1 case.
Sandal Council (Mixed) ...	...	...	1 „
Cathedral (Boys') ...	...	...	1 „
Cathedral (Girls') ...	...	...	1 „
Cathedral (Infant) ...	...	...	1 „
St. Mary's (Mixed) ...	...	...	1 „
Trinity (Girls') ...	...	...	1 „
Thornes Lane (Mixed) ...	...	...	1 „
St. Michael's (Infant) ...	...	...	1 „
Wesleyan (Infant) ...	...	...	1 „
St. John's (Mixed) ...	...	...	1 „
Clarendon Street (Infant) ...	...	...	1 „
St. Andrew's (Infant) ...	...	...	1 „
Sandal Endowed (Infant) ...	...	...	1 „
Lawefield Lane (Junior) ...	...	...	1 „

4 cases were discovered through being reported as mumps from school, and were subsequently notified by a doctor. 2 cases were found at the routine inspection of school children.

## MORTALITY.

Six of the cases died, giving a case mortality of 5·4 per cent., which is about half that of the preceding year (10·3) and still lower than the average for the preceding 10 years (14·2).

The particulars of the six deaths are as follows :—

DEATHS FROM DIPHTHERIA.

No.	Sex.	Age.	Locality.	Place of Death.	Date of Death.	Day of Disease.	No. of Days after Notification.	No. of days after removal to Hospital	Cause of Death as Certified.
1	F	7	George Street	Hospital	19/1/13	15th	12	12	Diphtheria-Cardiac Paralysis
2	M	3	Monk Street ...	Hospital	14/4/13	5th	1	1	Diphtheria-Broncho-Pneumonia
3	F	8	Barr Place ...	Home	16/11/13	2nd	Died before Notification received	—	Membranuous Croup
4	M	3	Savile Street...	Home	25/11/13	3rd	do.	—	Diphtheria—Heart Failure
5	M	8	Stanley Road	Hospital	27/11/13	14th	11	11	Diphtheria—Cardiac Failure
6	F	4	Horbury Road	Home	30/12/13	3rd	Died before Notification received	—	Laryngeal Diphtheria

## REMARKS.

Diphtheria showed an increased prevalence during 1913, the attack-rate being 1·95, as compared with 1·30 last year and an average 0·86 for the previous 10 years. The death-rate (0·11) was, however, lower than last year (0·13) and on the same level as the average annual death-rate for the previous 10 years (0·11). The disease prevailed throughout the year, but the largest number of cases were notified in the month of November. The prevalence was greatest in Belle Vue and North Westgate Wards and lowest in South Westgate, Calder, and Alverthorpe Wards. As usual the incidence was heaviest amongst children between 5 and 15 years of age, and rather heavier among girls than boys. 65 per cent. of the cases occurred in houses with 4 or more rooms. About 73 per cent. of the cases were removed to the City Hospital. The average interval between the onset and the notification was reduced to 3·6 days, a shorter interval than has hitherto been recorded. I have frequently had occasion to comment on the undue length of this interval, as an important factor in determining the mortality from this disease, and I am glad to note that it is tending to be shortened. Still, nearly half the cases were not notified within 3 days of the onset, and it is just during these three days when treatment can be most effective. When we look at the table giving the particulars of the fatal cases we note that out of the six deaths 3 had died before the notification of the disease had been made, and a fourth died within 24 hours of the notification. There were rather more secondary cases of the disease during the year than is usual, but about half of these were detected during the examination of contacts of notified cases. It has been my practice for many years to examine myself as far as possible all contacts of notified cases of infectious disease, and the results have fully justified the proceeding. In most towns the investigations into cases of infectious diseases are carried out by sanitary inspectors, but although these may be well qualified to investigate the sanitary conditions of the dwellings they are not qualified to medically examine the contacts, which in the light of modern research is a proceeding even more important than the former.

The information obtained from the weekly school returns continues to be useful, and it will be noted that four cases reported from the schools as Mumps proved on inquiry to be actually cases of Diphtheria. Two other cases were found during medical inspection of school children.



## ENTERIC FEVER.

## ENTERIC FEVER STATISTICS, 1888 to 1913.

Year.	No. of Cases Notified.	Attack Rate per 1,000 of Population.	No. of Cases Isolated in Hospital.	Percentage of Cases Isolated in Hospital.	No. of Deaths.	Case Mortality Per Cent.	Death Rate per 1,000 of Population.
1913	9	0.17 (0.18)	1	9.1	3	33.3	0.05 (0.06)
1912	17	0.33 (0.34)	3	38	3	18	0.05 (0.00)
1911	21	0.40 (0.43)	13	62	3	14	0.05 (0.06)
1910	6	0.11 (0.12)	4	66	2	33	0.04 (0.04)
1909	5	0.11	3	60	1	20	0.02
1908	15	0.35	2	13	3	20	0.07
1907	8	0.19	3	37	2	25	0.04
1906	14	0.32	2	14	3	21	0.07
1905	13	0.30	0	0	3	23	0.07
1904	20	0.47	0	0	4	20	0.09
1903	30	0.71	0	0	8	27	0.14
1902	28	0.67	1	4	8	28	0.16
1901	51	1.23	14	27	16	31	0.31
1900	83	2.16	6	7	14	17	0.36
1899	45	1.17	4	9	9	20	0.23
1898	62	1.64	0	0	6	10	0.15
1897	29	0.77	0	0	4	14	0.10
1896	55	1.48	2	4	13	24	0.35
1895	45	1.31	1	2	8	18	0.21
1894	26	0.75	1	4	6	23	0.17
1893	61	1.81	0	0	12	20	0.35
1892	30	0.89	0	0	7	23	0.20
1891	28	0.84	1	4	7	25	0.21
1890	43	1.31	9	21	9	21	0.27
1889	28	0.85	0	0	6	21	0.18
1888	73	2.25	0	0	8	11	0.24

NOTE.—For the year 1912, 38 per cent. of the home cases treated in City Hospital, 9 of the 17 cases occurred in the Asylum. The three deaths occurred in the Asylum, and all were those of non-residents.

DEATH-RATE FROM ENTERIC FEVER.  
1867—1913.

Period.	Average Annual Death Rate per 1,000 of population.
1913	0·05 (0·06)
1912	0·05 (0·00)
1911	0·05
1910	0·04
1909	0·02
1908	0·07
1907	0·04
1897—1906	0·18
1887—1896	0·22
1877—1886	0·21
1867—1876	0·73

NUMBER OF CASES AND SEX.

During 1913, 9 cases of Enteric or Typhoid Fever were notified. 3 were males and 6 females.

NUMBER OF CASES AND DEATHS IN WARDS.

Ward.	Number of Cases.	Attack Rate per 1000 of population.	No. of Deaths.
St. John's ... ..	1	0·21	—
Northgate ... ..	—	—	—
Eastmoor ... ..	3	0·65	—
Primrose Hill ... ..	—	—	—
North Westgate ... ..	—	—	—
South Westgate ... ..	1	0·26	1
Kirkgate ... ..	—	—	—
Calder ... ..	2	0·47	2
Alverthorpe ... ..	1	0·24	—
Belle Vue ... ..	—	—	—
Sandal ... ..	1	0·36	—
Whole City ... ..	9	0·18	3

## NUMBER OF CASES AT AGE PERIODS.

Age Period.	Number of Cases.
1—5 Years	1
5—15 „	1
15—25 „	2
25—45 „	5

## MONTHS AND CASES.

January .. .. . 1	August ... .. . 1
February ... .. . 1	October ... .. . 2
April ... .. . 2	November ... .. . 1
July ... .. . 1	

## REMARKS.

The attack-rate of Enteric Fever for 1913 (0·17) was lower than in the previous year (0·33) and lower than the average for the preceding ten years (0·32).

Three of the nine cases occurred in the West Riding Asylum—2 being patients and 1 a nurse.

Of the six cases which occurred in ordinary dwelling-houses 1 occurred in a 3-roomed house, 2 in four-roomed houses, 2 in six-roomed houses, and 1 in a seven-roomed house. All the houses had water closets, although in one instance there was a privy in addition. Drainage defects were found at two of the houses. The source of infection was not satisfactorily determined, as it seldom can be when we are dealing with sporadic cases. In one case cooked mussels were eaten about the date of the infection, but other members of the family had also partaken of them without untoward effect. In another case, the patient was on a visit to Wakefield, and had apparently been infected in London.

## ERYSIPELAS.

23 cases of Erysipelas were notified during 1913. Most of the cases were between 25 and 65 years of age, but the only death was that of a baby one month old.

## PUERPERAL FEVER.

Only three cases of puerperal fever were notified during the year, and one of the cases died. An inquest was held on this case, and as a result of a post-mortem examination, the cause of death was stated



to be "Peritonitis due to Inflammation of the Cæcum." This case should therefore be excluded from the puerperal fever list. All the cases were attended by different midwives.

### OPHTHALMIA NEONATORUM.

Ophthalmia Neonatorum, or purulent inflammation of the eyes of the newly-born, was made compulsorily notifiable in Wakefield in June, 1912, and nine cases of the disease were notified during 1913. One case was notified from the Clayton Hospital, but the patient had been admitted from a locality outside the City.

The following are the particulars of the remaining eight cases:—

AGE AT ONSET	BIRTH ATTEN- DED BY	NOTIFIED BY	DOCTOR CALLED IN	REMARKS.
2 days	Midwife	Midwife	Yes	Died from Broncho Pneumonia.
5 „	do.	do.	Yes	
6 „	do.	Doctor	Yes	
2 „	Doctor	do.	Yes	Case found by Health Visitor, and not notified till 14 days after onset.
7 „	Midwife	do.	Yes	Case found by Health Visitor, and not notified till 10 days after onset.
3 „	Doctor	do.	Yes	Case found by Health Visitor, 4 weeks after onset, and subsequently notified. Birth not notified.
2 „	Midwife	do.	Yes	
1 „	do.	do.	Yes	

It will be noticed that three cases were discovered by the Health Visitors, and the attention of the persons responsible for notification was drawn to their duties in this connection. None of the cases suffered any permanent injury from the attack. This is very satisfactory because the disease is a common cause of permanent injury or blindness.

### ACUTE POLIOMYELITIS AND CEREBRO-SPINAL FEVER.

These diseases were also made compulsorily notifiable in Wakefield in June, 1912, but no cases were reported during 1913.

MEASLES.  
MEASLES DEATH-RATE, 1867-1913.

Period.	Average Annual Death Rate per 1,000 of Population.
1913	0 05 (0·06)
1912	0·54 (0·56)
1911	0 23 (0·24)
1910	0·27 (0·29)
1909	0·02
1908	0·39
1907	0·04
1897—1906	0·40
1887—1896	0·29
1877—1886	0·21
1867—1876	0·11

NOTE.—The rates within brackets are calculated on the nett population.

During the year there were only three deaths (2 females and 1 male) from Measles, giving a death-rate of 0·06 per 1,000 of the population. This death-rate is much lower than the previous year (0·56) and also lower than the average for the preceding 10 years (0·29).

Two of the deaths took place before one year of age and the other was 2 years old.

One death took place in January, one occurred in November, and one in December.

OCCUPATIONS OF FATHERS.

General Labourer	...	1		Chemical Works Labourer	1
Coal Miner	...	1			

CAUSES OF DEATH AS CERTIFIED.

Measles, Broncho-Pneumonia	...	...	2 deaths.
Measles, Acute Bronchitis	...	...	1 death.

REMARKS.

The death-rate from Measles is one of the lowest on record for the City, although it was somewhat lower in 1909 and again in 1907.

There was at the same time a great diminution in the number of cases of the disease.

There were only 190 cases reported from the public elementary schools, as compared with 487 in 1912 and 317 in 1911, and the average weekly number of children absent from the schools on account of Measles was 17 (13 cases and 4 contacts). When the schools opened in January 36 children (28 cases and 8 contacts) were absent.

The number then decreased to two cases at the beginning of May, but again gradually rose to 42 cases (32 cases and 10 contacts) in the last week of November. When the schools closed in December the number absent was 32 (22 cases and 10 contacts).

The disease having been epidemic during 1911 and 1912, it was natural to expect a considerable fall in prevalence during 1913.

All the cases reported from school are visited by the Health Visitors, who give advice, both verbal and printed, as to precautions.

It was found that 68 cases, or 36 per cent., were attended by a medical man.

WHOOPING COUGH.

WHOOPING COUGH DEATH-RATE, 1867-1913.

Period.	Average Annual Death Rate per 1,000 of the population
1913	0·13 (0·14)
1912	0·25 (0·26)
1911	0·15 (0·16)
1910	0·35 (0·37)
1909	0·14
1908	0·20
1907	0·25
1897—1906	0·30
1887—1896	0·33
1877—1886	0·37
1867—1876	0·19

During 1913 there were 7 deaths from Whooping Cough, giving a death-rate of 0·14 per 1,000 of the population, which is much lower than the rate for 1912 (0·26) and is also lower than the average for the preceding ten years (0·23).

SEX.

Three were males and four females.

DEATHS AT AGE PERIODS.

0—1 year	...	...	5	2—5 years	...	...	1
1—2 years	...	...	1				

DEATHS IN MONTHS

March	...	...	...	2	May	...	...	...	3
April	...	...	...	1	October	...	...	...	1

OCCUPATION OF FATHERS.

Coal Miner	...	...	...	3	Joiner	...	...	...	1
Railway Ticket Collector	...	...	...	1	Commission Agent's Clerk	...	...	...	1
Asylum Attendant	...	...	...	1					



## CAUSES OF DEATH AS CERTIFIED.

Whooping Cough, Meningitis ...	... 1 death.
Whooping Cough, Convulsions ...	... 3 deaths.
Whooping Cough, Broncho-Pneumonia	3 deaths.

## REMARKS.

The mortality from Whooping Cough is one of the lowest on record for the City, although it was lower in 1906.

There was also a considerable reduction in the number of cases in the City, there being only 74 cases reported from the public elementary schools, as compared with 251 in 1912. The average weekly number of children absent from school on account of Whooping Cough was 9 (8 cases and 1 contact). When the schools opened in January there were 9 cases absent on account of this disease, and the numbers increased up to the end of March, when there were 31 children absent (30 cases and 1 contact). The number then gradually lessened, and when the schools closed in December there were only 2 children (1 case and 1 contact) absent on account of Whooping Cough.

Each case reported from school is visited by a Health Visitor, who gives advice, verbal and printed, as to the necessary precautions. It was found that 15 cases, or 20 per cent., were attended by a medical man.

## ZYMOTIC DIARRHŒA.

## ZYMOTIC DIARRHŒA DEATH-RATE, 1867-1913.

Period.	Average Annual Death Rate from Zymotic Diarrhœa per 1,000 of population.
1913	0.38 (0.40)
1912	0.11 (0.12)
1911	1.20 (1.26)
1910	0.21 (0.23)
1909	0.07
1908	0.53
1907	0.32
1897—1906	0.81
1887—1896	0.57
1877—1886	1.10
1867—1876	0.32

There were 20 deaths from Zymotic Diarrhœa during 1913, giving a death-rate of 0.40 per 1,000 of the population, which is

higher than the rate in the previous year (0·11), but still is slightly under the average for the preceding 10 years (0·47).

#### SEX.

Nine were males and eleven females.

#### DEATHS AT AGE PERIODS.

0—1 year	...	...	10	2—5 years	...	...	1
1—2 years	...	...	9				

#### DEATHS IN MONTHS.

January	...	...	1	October	...	...	2
March	...	...	2	November	...	...	2
September	...	...	12				

#### OCCUPATION OF FATHERS.

Labourer	...	...	3	Stableman	...	...	1
Coal Miner	...	...	2	General Broker	...	...	1
Canal Boatman	...	...	2	Hairdresser	...	...	1
Grocer	...	...	1	Carting Agent	...	...	1
Draper	...	...	1	Glass Blower	...	...	1
Card Fetter, Cloth Mill	1			Twister	...	...	1
Blacksmith	...	...	1	General Dealer	...	...	1
Engine Driver	...	...	1	Glass Bottle Washer	...	...	1

#### LOCALITIES.

Ashdown Road, Sandal	Tavora Street
Quaker House, Yard,	Pinderfields Road
Belle Vue	Peterson Road
Commercial Street	Providence Street
Marsland Street	New Street
Armitage's Yard, Charles	Sunderland Yard
Street	Camplin Yard
Kirkgate	Horbury Road
Sun Lane	Basford Street
Monk Street	Milner's Court, Flanshaw
Providence Row	Kershaw Fold, Flanshaw.

#### CAUSES OF DEATH AS CERTIFIED.

Epidemic Gastro-Enteritis	...	...	6 deaths.
Epidemic Diarrhoea	...	...	5 „
Diarrhoea	...	...	4 „
Epidemic Enteritis	...	...	2 „
Diarrhoea, Sicknes	...	...	1 death.
Diarrhoea, Convulsions	...	...	1 „
Epidemic Diarrhoea, Pneumonia	...	...	1 „

#### REMARKS.

Very little diarrhoea was experienced up to the month of September, but the continued drought and relatively high air temperature during the third and fourth quarters of the year sent up the diarrhoeal prevalence during the autumn. The rainfall April to

October was 9·68 inches, as compared with 18·13 inches in the previous year, and the rainfall for the whole year was about 9 inches less than in 1912. These conditions favoured diarrhoea, but still the prevalence was not quite so great as might have been expected. The usual steps were taken to deal with the disease, including special attention by the health visitors and the sanitary inspectors to the diarrhoea districts. It may just be noted that not a single baby who was being breast fed succumbed to the disease.

### TUBERCULAR DISEASES.

#### TUBERCULOSIS DEATH-RATE IN WAKEFIELD, 1871 to 1913.

Period.						Death Rate per 1,000 of the Population.
Year 1913 ...	...	...	...	...	...	1·26 (1·33)
„ 1912 ...	...	...	...	...	...	1·57 (1·66)
„ 1911 ...	...	...	...	...	...	1·78 (1·88)
Decennium 1901-1910 (Average Annual)						1·75
„ 1891-1900	„	„	...	...	...	2·3
„ 1881-1890	„	„	...	...	...	2·6
„ 1871-1880	„	„	...	...	...	3·7

NOTE.—The rates within brackets are calculated on the nett population.

During 1913 there were 66 deaths (42 males and 24 females) from Tubercular Diseases, giving a death-rate of 1·33 per 1,000 of the population, which is lower than the rate for the previous year (1·66) and lower than the average for the preceding 10 years (1·72).

It is also interesting to note that the tuberculosis mortality is now only about a third of what it was forty years ago.

The 66 deaths are classified as follows:—

Tuberculosis of Lungs (Phthisis)	...	...	40
Tubercular Meningitis	...	...	11
Tubercular Peritonitis	...	...	3
General Tuberculosis	...	...	3
Tubercular Enteritis	...	...	2
Tabes Mesenterica	...	...	2
Acute Miliary Tuberculosis	...	...	1
Tubercular Nephritis	...	...	1
Tubercular Marasmus	...	...	1
Tubercular Arthritis	...	...	1
Tuberculosis of Brain	...	...	1



## PULMONARY TUBERCULOSIS (PHTHISIS).

Since the 1st of January, 1912, pulmonary tuberculosis has been compulsorily notifiable throughout the country. From 1899 and up to the date of compulsory notification the disease was voluntarily notifiable in Wakefield.

The following table gives the available data since 1898. Of course only a proportion of the cases seen by medical men were notified up to the end of 1911. The attack-rate given is based on the cases notified or ascertained, and must not be taken as the actual attack-rate, which including, as it must a considerable number of cases which do not come to our cognisance, must be substantially higher.

## PULMONARY TUBERCULOSIS IN WAKEFIELD, 1898-1913.

Year	CASES.				DEATHS.	
	Total Cases Notified or Ascertained	Cases Notified	Cases Ascertained but not notified.	Attack Rate per 1,000 of population.	Deaths number	Death Rate per 1,000 of population.
1913	111	107	4	2.12 (2.23)	40	0.76 (0.8)
1912	122	110	12	2.35 (2.47)	58	1.11 (1.17)
1911	—	60	—	—	60	1.16 (1.22)
1910	—	46	—	—	54	1.05 (1.11)
1909	—	46	—	—	53	1.22
1908	—	42	—	—	58	1.35
1907	—	40	—	—	62	1.45
1906	—	36	—	—	48	1.13
1905	—	14	—	—	47	1.11
1904	—	27	—	—	53	1.25
1903	—	50	—	—	58	1.38
1902	—	40	—	—	52	1.28
1901	—	50	—	—	55	1.42
1900	—	51	—	—	58	1.06
1899	—	—	—	—	43	1.12
1898	—	—	—	—	65	1.72

During 1913 there were 107 cases of pulmonary tuberculosis notified, and 4 cases who died had not been notified, giving a total of 111 cases, or an attack-rate of 2.23 on the nett population.

Of the 107 cases notified 57 were males and 50 females.

During 1913 there were 40 deaths from pulmonary tuberculosis, giving a death-rate of 0.80 per 1,000 of the nett population, which is lower than the rate for the previous year (1.17) and still lower than the average for the preceding 10 years (1.23).

29 of the deaths were males and 11 were females.

## PHTHISIS NOTIFICATIONS AND DEATHS IN WARDS IN 1913.

Ward.	Cases notified or ascertained.	Attack Rate.	Deaths.	Death Rate.
St. John's... ..	6	1 29	4	0·86
Northgate ... ..	16	3·31	9	1·86
Eastmoor ... ..	9	1·96	1	0·21
Primrose Hill ...	14	2·60	5	0 92
North Westgate ...	10	2·00	4	0·80
South Westgate ...	10	2 69	4	1·07
Kirkgate ... ..	13	2·65	4	0·81
Calder ... ..	11	2·57	3	0·70
Alverthorpe ... ..	6	1·47	1	0·24
Belle Vue ... ..	13	2·35	3	0·54
Sandal ... ..	3	1·10	2	0·81
Whole City . ...	111	2·23	40	0 80

The following table gives the number of notifications and deaths divided into age and sex.

AGE PERIOD	MALES.		FEMALES.		TOTAL.	
	Notified.	Died.	Notified.	Died.	Notified.	Died.
1—5 Yrs.	—	—	—	—	—	—
5—10 „	5	1	2	—	7	1
10—15 „	3	—	8	—	11	—
15—20 „	8	1	6	2	14	3
20—25 „	8	4	8	1	16	5
25—30 „	9	5	5	1	14	6
30—35 „	7	4	4	—	11	4
35—40 „	6	5	6	1	12	6
40—45 „	5	3	5	4	10	7
45—50 „	2	2	3	—	5	2
50—55 „	2	—	1	—	3	—
55—60 „	1	1	1	1	2	2
60—65 „	1	2	1	1	2	3
65—70 „	—	1	—	—	—	1
Total ...	57	29	50	11	107	40

The numbers notified and dying in each month are shown in the following table:—

MONTH.	NOTIFICATIONS.			DEATHS.		
	Male.	Female.	Total.	Male.	Female.	Total.
Jan.	4	2	6	3	1	4
Feb.	7	4	11	2	—	2
Mar.	3	4	7	1	2	3
Apl.	9	6	15	2	—	2
May	2	—	2	3	1	4
June	2	5	7	1	1	2
July	2	2	4	2	1	3
Aug.	5	8	13	5	2	7
Sept.	6	3	9	1	—	1
Oct.	5	5	10	2	—	2
Nov.	5	4	9	5	1	6
Dec.	7	7	14	2	2	4
Total ...	57	50	107	29	11	40

#### DEATHS AND NOTIFICATIONS.

Of the 40 deaths, 36 had been notified and 4 had not. The following list gives the period which had elapsed between the date of notification and the date of death:—

Died within 1 month ...	5	Died between 9—10 months —	
„ between 1—2 months	5	„ „ 10—11 „	2
„ „ 2—3 „	5	„ „ 11—12 „	3
„ „ 3—4 „	3	„ „ 12—15 „	1
„ „ 4—5 „	1	„ „ 15—18 „	1
„ „ 5—6 „	2	„ „ 18—24 „	1
„ „ 6—7 „	—	„ „ 24—30 „	2
„ „ 7—8 „	2	„ „ 30—36 „	1
„ „ 8—9 „	—	„ „ 57—58 „	1
96 months after notification ...	1		

It will be seen that about 58 per cent. died within six months of the notification. The age at death ranged from 8 years to 67 years, the average being 36 years. For males the minimum was 8 years, the maximum 67 years, and the average 35 years. For females the minimum was 16 years, the maximum 60 years, and the average 37 years.



The following list shows the occupations of those who died:—

MALES.				FEMALES.			
General Labourer	...	...	11	Wives of Coal Miners	...	...	4
Coal Miner	...	...	5	Cloth Weaver	...	...	1
Clerk	...	...	2	Millhand	...	...	1
Cab Driver	...	...	1	Domestic Servant	...	...	1
Railway Porter	...	...	1	Rag Sorter	...	...	1
Fish Salesman	...	...	1	Wife of Fruit Hawker	...	...	1
Storekeeper	...	...	1	Wife of Insurance Agent	...	...	1
Iron Turner	...	...	1	No occupation	...	...	1
Teamer	...	...	1				
Engine Fitter	...	...	1				
Grocer	...	...	1				
Wire Drawer	...	...	1				
Child of Coal Miner	...	...	1				
Child of Labourer	...	...	1				

#### DURATION OF ILLNESS OF THOSE WHO DIED.

The duration, as stated, varied from one month to 108 months, the average being 13 months.

#### NATURE OF ONSET OF THOSE WHO DIED.

Gradual	...	...	10	Bronchitis	...	...	2
Indefinite	...	...	7	Pneumonia	...	...	1
"Colds"	...	...	7	Diarrhoea	...	...	1
Unknown	...	...	5	Typhoid Fever	...	...	1
Pleurisy	...	...	3	"Fits"	...	...	1
Influenza	...	...	1	Hæmoptysis	...	...	1

#### FAMILY HISTORY.

Out of the 29 cases where fairly reliable history could be obtained there was a definite family history in 8 cases, or 27 per cent. In one case, the patient's mother and brother had died of phthisis. There was also a case of a boy whose mother was a notified case, and nine of his sisters and brothers had died chiefly from various forms of tuberculosis. In another case two sisters had died of phthisis, and in another case sister and brother died of phthisis.

#### HOUSING CONDITIONS.

Of the total number of deaths 16 (40 per cent.) died in the Union Workhouse and 2 in the Asylum.

Particulars were obtained as to 29 houses in which cases had died or from which they had been removed to public institutions.

Of these houses 18 (62 per cent.) were through houses and 11 were back-to-back.

2 roomed	...	...	6	5 roomed	...	...	3
3 „	...	...	4	6 „ and over	...	...	5
4 „	...	...	11				

The average population in a house where a death occurred was 4·6 persons.

With regard to the bedrooms, 9 had sole use of the room and 20 had not, while 15 had sole use of the bed and 14 had not.

#### OCCUPATIONS OF NOTIFIED CASES.

MALES.							
Labourers	...	...	18	Engineer	...	...	1
Coal Miners	...	...	3	Railway Platelayer	...	...	1
Pony Drivers (Colliery)	...	...	2	Tinsmith	...	...	1
Clerk	...	...	2	Cab Driver	...	...	1
Grocer	...	...	1	Shop Assistant	...	...	1
Driller	...	...	1	Iron Finisher	...	...	1
Secretary	...	...	1	Errand Boy	...	...	1
Teamer	...	...	1	Child of Teamer	...	...	1
Dyer	...	...	1	„ „ Cab Driver	...	...	1
Iron Turner	...	...	1	„ „ Foundry Labourer	...	...	1
Metal Planer	...	...	1	Children of Coal Miner	...	...	2
Timekeeper	...	...	1	„ „ Railway	...	...	
Printer	...	...	1	Signalman	...	...	2
Fireman	...	...	1	„ „ Firemen	...	...	2
Porter	...	...	1	Unknown	...	...	5
FEMALES.							
Millhands	...	...	7	Wife of Fruit Hawker	...	...	1
Housewife	...	...	3	„ „ Traveller	...	...	1
Dressmaker	...	...	2	„ „ Watchmaker	...	...	1
Charwomen	...	...	2	„ „ Boiler Maker	...	...	1
Rag Sorter	...	...	1	„ „ Railway Clerk	...	...	1
Nurse	...	...	1	„ „ Glass Bottle Maker	...	...	1
Cloth Mender	...	...	1	„ „ Publican	...	...	1
Domestic Servant	...	...	1	Children of Coal Miners	...	...	8
Wives of Labourers	...	...	6	Child of Gas Works Labourer	...	...	1
„ „ Coal Miners	...	...	3	„ „ Mill Fireman	...	...	1
„ „ Teamers	...	...	2	No occupation (spinster)	...	...	1
Wife of Railway Guard	...	...	1	Unknown	...	...	2

#### FAMILY HISTORY.

Amongst the 89 cases where information was obtained, 29 had a definite history of phthisis in the family (32·6 per cent.) and 60 had no such history.

The following are examples of families having a tuberculosis history:—

- (1). Mother died of phthisis, sister also notified.
- (2). Brother, sister, and grandmother died of phthisis.
- (3). Sister and brother notified as phthisis.
- (4). Three children of grandmother died of phthisis.
- (5). Husband died of phthisis, also sister of husband.

## DURATION OF ILLNESS.

The duration of illness prior to the date of notification varied from two weeks to 13 years, the average being 14 months.

## NATURE OF ONSET.

In 89 cases the nature of onset was given as follows:—

"Colds" ... .. 23	Hæmoptysis ... .. 3
Gradual ... .. 11	Diarrhoea ... .. 2
Indefinite ... .. 23	Indigestion ... .. 2
Bronchitis ... .. 4	Whooping Cough ... 1
Pleurisy ... .. 4	Diabetes ... .. 1
Pneumonia ... .. 4	Child Birth ... .. 1
Influenza ... .. 6	"Fits" ... .. 1
Measles ... .. 2	Rheumatism ... .. 1

## HOUSING CONDITIONS.

Twenty-two cases were notified from the Workhouse, five of whom had been admitted from common lodging-houses. Three cases (residents) were notified from the Asylum.

Of the 89 dwellings, 53 were through and 36 back-to-back houses.

2 roomed ... .. 20	5 roomed ... .. 17
3 ,, ... .. 17	6 ,, and over ... 13
4 ,, ... .. 22	

There was an average population of five persons per notified house.

26 of the cases had sole use of the room and 63 had not. 41 cases had sole use of the bed and 48 cases had not.

## REMARKS.

The most striking thing about the phthisis figures for the year is the marked drop in the mortality.

The mortality has never previously, so far as our records show, been under 1 per 1,000, but in 1913 it was only 0·8 per 1,000, which is practically 30 per cent. under the average for the preceding 10 years. It does seem encouraging that this fall in the phthisis mortality should have taken place during the first year of working the special measures for the treatment of pulmonary tuberculosis, but it would be misleading to attribute the reduction to this cause alone. No doubt next year the mortality will show something of a rise again, as is usually the case after a decided drop, but all the same, it is, as I have said, a very encouraging feature of the year's statistics.



The relatively small mortality among females as compared with males is also somewhat striking. Amongst males, the general labouring classes and coal miners and amongst females the wives of coal miners suffered most. The fact that 58 per cent. died within six months of notification points to the great need of earlier diagnosis and earlier treatment.

The home circumstances of a large number of cases is roughly indicated by the fact that 40 per cent. of the deaths took place in the Union Infirmary. Some of these cases it is true were not destitute in the strict sense, but were removed for purposes of isolation and treatment, and when one considers what a serious danger an advanced case of phthisis is to other inmates in a small dwelling, such removal is a preventive measure of great importance. This danger is further shown by the fact that 72 per cent. of the notified cases were found occupying the same room as other persons, and 54 per cent. were actually sleeping in the same bed as one other person at least.

As regards the distribution of the disease in the City, Northgate Ward shows both the highest attack-rate and the highest death-rate, whilst Sandal Ward shows the lowest attack-rate and Eastmoor and Alverthorpe Wards the lowest death-rates.

### PREVENTIVE MEASURES.

The usual preventive measures fully detailed in previous reports were carried out during the year. The homes of notified cases were visited by the health visitors, the home and personal circumstances ascertained, and advice both verbal and printed given with regard to precautions. The cases were regularly re-visited and kept under supervision. Any sanitary defects found were dealt with by the sanitary inspectors. Orders for the supply of disinfectants were freely granted, and the rooms occupied by the patients, the bedding, etc., were disinfected whenever an opportunity occurred. In addition the work now carried out under the Sanatorium Benefit part of the Insurance Act must be regarded as preventive work of the first importance. Curative measures are more than curative, for every case cured is a focus of infection removed. The educational work which is being carried on in connection with the Dispensary and the Sanatoria is also most valuable, and should have far-reaching effects in reducing the prevalence of the disease.

### NON-PULMONARY TUBERCULOSIS.

Under the Public Health (Tuberculosis) Regulations, 1912, which came into force on the 1st February, 1913, the compulsory notification of pulmonary tuberculosis—already in force—was extended to all forms of non-pulmonary tuberculosis.

During the ensuing eleven months 41 cases (29 males and 12 females) of non-pulmonary tuberculosis were notified in Wakefield.

Glands of Neck	...	...	...	...	16
Cerebral Meninges	...	...	...	...	7
Joints	...	...	...	...	6
Peritoneum	...	...	...	...	3
Mesenteric Glands	...	...	...	...	2
Larynx	...	...	...	...	2
Spine	...	...	...	...	2
Cheek (Lupus)	...	...	...	...	1
Kidney	...	...	...	...	1
Bladder	...	...	...	...	1

During 1913 there were 26 deaths from non-pulmonary tuberculosis, comprising 13 of each sex, and giving a death-rate of 0·52 per 1,000, as compared with 0·48 in the previous year and 0·50, the average for the preceding 10 years.

Year.	Death Rate from Non-pulmonary Tuberculosis.
1913	0·49 (0·52)
1912	0·46 (0·48)
1911	0·62 (0·66)
1910	0·43 (0·46)
1909	0·58
1908	0·23
1907	0·51
1906	0·56
1905	0·47
1904	0·55

It will be noted that the increased mortality is brought about by an increase in the number of deaths from different forms of abdominal tuberculosis.

#### TUBERCULAR MENINGITIS.

There were 11 deaths from tubercular meningitis, as compared with 13 in the preceding year. There was also a death from tubercular disease of the brain.

#### ABDOMINAL TUBERCULOSIS.

There were 8 deaths from abdominal tuberculosis, as compared with 3 in the previous year. This is the form of tuberculosis that is most directly related to tubercle infected food.

#### TUBERCULOSIS OF JOINTS AND BONES.

There was only one death from tuberculosis of a joint, as compared with two in the previous year.

#### GENERALISED TUBERCULOSIS.

There were 3 deaths from "generalised tuberculosis" and one from "acute miliary tuberculosis," as compared with the same total in 1912.

#### OTHER FORMS.

There was one death from tuberculosis of the kidney.



# NON-PULMONARY TUBERCULOSIS, 1913.

[illegible]

## REMARKS.

Probably not a great deal is to be expected—at least not in the immediate future—from the notification of the non-pulmonary forms of tuberculosis, but the statistics collected will at least be of some value, especially if the notification requirement is fully complied with. This has certainly not been done in the past year, for out of 24 deaths which occurred after the 1st February, 13 were those of cases which had not been notified.

All cases notified are fully investigated and the particulars duly recorded. The milk supply—especially in the case of young children—receives special attention, as well as the sanitary conditions generally under which the patients are living.

## PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912.

These regulations which require the notification of all cases of tuberculosis, whether pulmonary or otherwise, came into force on the 1st February, 1913.

A medical man called in to attend or attending a patient suffering from any form of tuberculosis must notify the fact to the Medical Officer of Health within 48 hours of making the diagnosis. If the patient is an in-patient of an institution, the notification has to be sent to the Medical Officer of the district to which the patient belongs. School Medical Inspectors have to make weekly reports to the Medical Officer of Health of all cases of tuberculosis found by them in the course of their inspection of children in the public elementary schools. Medical Officers of Poor Law Institutions and Sanatoria are required to forward to the Medical Officer of Health weekly returns giving particulars (including home addresses) of all cases of tuberculosis admitted or discharged from the institutions.

The diagnosis of tuberculosis must not solely depend on the evidence derived from tuberculin tests. The medical men making notifications have a prescribed remuneration, and the Local Authority has once a quarter to pay all fees due without the medical men submitting accounts.

The Medical Officer of Health has to keep a register of all notifications made to him, which register shall not be open to the inspection of anyone except a person specially authorised by resolution of the Local Authority, the County Medical Officer of Health, the School Medical Officer of the area or an officer of a Government Department.

The Medical Officer of Health has to transmit weekly to the County Medical Officer of Health a return giving particulars of all notifications received during the week.



The Medical Officer of Health has upon receiving a notification  
 “to make such enquiries and to take such steps as are necessary or  
 “desirable for investigating the source of infection, and for removing  
 “conditions favourable to infection.

“The Local Authority on the advice of their Medical Officer may  
 “supply all such medical or other assistance and all such facilities and  
 “articles as may be reasonably required for the detection of tubercu-  
 “losis, for preventing spread of infection, and for removing conditions  
 “favourable to infection, and for that purpose may appoint such  
 “officers, do such acts, and make such arrangements as may be  
 “necessary.

“The Local Authority on the advice of their Medical Officer may  
 “provide and publish or distribute suitable summaries of information  
 “and instruction respecting tuberculosis and the precautions to be  
 “taken against the spread of infection from that disease.”

In the Circular issued by the Local Government Board and  
 accompanying the Order, the following observations are made with  
 regard to the duties of Sanitary Authorities under the Order:—

#### DUTIES OF SANITARY AUTHORITIES.

##### NON-PULMONARY TUBERCULOSIS AND CHILD MORTALITY.

“The new Regulations apply to non-pulmonary as well as to pul-  
 “monary tuberculosis. More than half the deaths from non-pulmon-  
 “ary tuberculosis are of children under five years of age, and it is  
 “probable that a much higher percentage of the total number of per-  
 “sons suffering from non-pulmonary tuberculosis are children of this  
 “age. It is hoped that notification of these cases will facilitate the  
 “investigation of sources of infection and assist in securing improve-  
 “ment in the conditions under which the children live.

##### SANITARY AUTHORITIES AND THE NATIONAL INSURANCE ACT.

“The provisions of the National Insurance Act, 1911, contemplate  
 “the provision of treatment on a comprehensive scale for persons  
 “suffering from tuberculosis.

“The Departmental Committee on Tuberculosis, in their Interim  
 “Report, pointed out that any scheme which is to form the basis of  
 “an attempt to deal with the problem of tuberculosis should be avail-  
 “able for the whole community, and they recommended that the unit  
 “area for administrative action should generally be that of the County  
 “or County Borough, or in some cases a group of Counties and County  
 “Boroughs, and that the organisation of schemes would best be carried  
 “out if undertaken by the County or County Borough Council, or a  
 “joint committee of these bodies. It will be remembered that in their  
 “Circular Letter of the 14th May last (10 L.G.R., part 3, p. 169),  
 “the Board expressed themselves to be in general agreement with the  
 “recommendations of the Committee.



“ The position to be occupied by the Sanitary Authority in relation to schemes of treatment must largely depend on the circumstances of the area which is chosen as the unit for administrative purposes. The Board have made some observations in regard to this point in their Circular Letter of the 6th inst. (10 L.G.R., part 3, p. 247).

“ As stated in paragraph 35 of the Departmental Committee's Report, ‘ Sanitary Authorities are the bodies primarily concerned in the administration of the public health laws of this country, and they must occupy an important position in any general scheme dealing with tuberculosis. It is they who receive notifications of cases of pulmonary tuberculosis, and it is the duty of their Medical Officer of Health, on receiving notifications, to take such steps as may appear to them to be necessary or desirable for preventing the spread of infection and for removing conditions favourable to infection.’

“ The Board may also remind Sanitary Authorities of their responsibilities under the Public Health Acts and Housing Acts, for the prevention of overcrowding and for the correction of insanitary conditions which render houses unfit for human habitation and favour the spread of tuberculosis.

#### CO-OPERATION WITH OTHER AUTHORITIES AND AGENCIES.

“ The powers of the Sanitary Authority in relation to the prevention of tuberculosis, including the special powers conferred on them by Article XIII. of the Order, should be exercised in general co-operation with the authority responsible for the execution of the scheme of institutional treatment for the locality and with any other authorities and agencies, public or private, having powers or undertaking duties in connection with the prevention of tuberculosis.

“ Time and labour may be economised by co-operation between voluntary workers and the officers of local authorities, and other agencies may sometimes be able to render services which are outside the powers of the Sanitary Authority. Charitable organisations and Poor Law Authorities have funds at their disposal for purposes to which the rates levied under the Public Health Acts may not be applicable.

“ The Regulations do not confer any additional power of requiring alterations in factories, workshops, and workplaces. The position in that respect is stated in the Home Office Memorandum on the duties of Local Authorities under the Factory and Workshops Act. If any alteration of factories, etc., are thought to be necessary the Factory Inspector should be consulted before recommendations are made in regard to such alterations.”

## NATIONAL INSURANCE ACT, 1911—SANATORIUM BENEFIT. TUBERCULOSIS DISPENSARY.

Wakefield being a Non-County Borough the administration of the Insurance Act is vested in the County Council of the West Riding of Yorkshire. With regard to the Dispensary part of Sanatorium Benefit, an arrangement was come to between the County Council and the Wakefield City Council and approved by the Local Government Board, whereby the latter should themselves carry out Dispensary treatment. Before the Act came into force the City Council had already decided to establish a Tuberculosis Dispensary. The Insurance Act completely altered the pre-existing state of affairs, but the City Council having regard to the great advantages of complete co-ordination in regard to tuberculosis work, made application to retain the Dispensary part in their own hands, and ultimately the application was agreed to, and a sum of money was allocated by the County Council to meet the expenditure of the City Council in respect of the Dispensary work.

The Dispensary was opened for the treatment of patients on the 3rd of February, 1913.

### PREMISES.

The Dispensary is carried on in the house No. 5, Almshouse Lane. This house had previously been secured by the City Council for the purposes of a Tuberculosis Dispensary, but the tenancy was transferred to the County Council, and the City Council became sub-tenants.

The house is double fronted, and was formerly occupied as a dwelling-house. On the ground floor there are three rooms, one used as a waiting room, one as a dispensary and nurses' room, and the third as a kitchen for the caretaker, who is non-resident. On the first floor there are two dressing rooms—one for each sex—a consulting room, and a room containing bath, lavatory, and water closet. There are also two rooms on the second floor which are not at present used. The house is excellently adapted for the purpose of a Dispensary. It is situated in the centre of the City, near the tramway, and conveniently reached from the two railway stations, but still in a comparatively quiet thoroughfare.

The Dispensary is used by the Corporation for Wakefield patients on two afternoons and two evenings a week (Mondays and Thursdays) and by the County Council for patients in the surrounding districts on other days of the week. Each Monday and Thursday the Dispensary is open from 2 to 5 o'clock and from 6.30 to 8.30 o'clock.

### STAFF.

The examination and treatment of the patients is carried out by the Medical Officer of Health assisted by the three health visitors, who are all trained nurses.



## APPLICATION FOR TREATMENT.

The Dispensary is available for all classes of the population, whether insured, dependents on insured persons, or others. The West Riding Insurance Committee provides for the Dispensary treatment of the insured and dependents of insured persons, and the County Council for those who are neither insured nor dependents of insured persons. Treatment is afforded to suitable cases of non-pulmonary tuberculosis as well as to pulmonary cases. The great majority of the patients are sent by the medical practitioners in the City, generally for treatment, but sometimes for purposes of diagnosis. In the case of a patient applying direct for treatment and appearing after examination to be suitable for treatment either at the Dispensary or at a Sanatorium, the usual medical attendant of the patient is communicated with before treatment is commenced.

The Dispensary has, I believe, the cordial support of the medical men in the City, and there has not been the slightest friction with them since the work was commenced.

## TREATMENT.

Tuberculin treatment has been extensively used, and on the whole with satisfactory results. The forms of tuberculin chiefly used have been P.T.O. and P.T. in pulmonary cases, and T.R. in non-pulmonary cases, on a system of slowly increasing dosage and avoidance as far as possible of reactions. Old Tuberculin has been used mainly for diagnostic purposes, both subcutaneously and cutaneously (Von Pirquet).

Treatment has, however, not been confined to tuberculin, but the ordinary remedies for phthisis, e.g., cod liver oil, creosote, guaicol, medicated inhalations, etc., have been extensively employed. Tuberculin treatment has been much discussed of late. It is lauded by some authorities, and deprecated by others. My own experience is that it is a therapeutic agent of great value when carefully used in suitable cases. It is, however, not suited for all cases, and other remedies have often to be employed, either by themselves or in conjunction with tuberculin.

Special attention has also been paid to preventative measures, and sputum flasks have been supplied free to the patients. The cases are kept under regular supervision at home by the health visitors, and they are supplied with printed instructions as to necessary precautions. Clinical thermometers are supplied to the patients, who are instructed how to take and record their temperatures on cards, from which the readings are transferred by the nurses on to temperature charts kept in connection with the case sheets.



## DISPENSARY STATISTICS 3RD FEBRUARY TO 31ST DECEMBER, 1913.

	Total.	Males.	Females.
No. of Persons sent to Dispensary for treatment or examination ... ..	141	82	59
No. found definitely suffering from Pulmonary Tuberculosis ... ..	84	47	37
No. found suspicious but diagnosis of Pulmonary Tuberculosis doubtful	12	5	7
No. not found suffering from Pulmonary Tuberculosis ... ..	24	14	10
No. found suffering from Non-Pulmonary Tuberculosis ... ..	22	14	8
No. of Pulmonary Cases treated at Dispensary ... ..	70	40	30
No. of Non-Pulmonary Cases treated at Dispensary ... ..	16	9	7
No. of Insured Persons treated at Dispensary .. ..	30	24	6
No. of Dependents of Insured Persons treated at Dispensary ... ..	46	16	30
No. of Persons other than Insured Persons or their Dependents treated at the Dispensary ... ..	10	7	3
No. of Patients under treatment at end of 1913 ... ..	67	36	31
No. of Pulmonary Cases under treatment at end of 1913 ... ..	52	27	25
No. of Non-Pulmonary Cases under treatment at end of 1913 ... ..	15	9	6
Total No. of Attendances at Dispensary	1545		

## AGES OF PATIENTS APPLYING FOR TREATMENT AT THE DISPENSARY.

	1—5 Years.	5—15 Years	15—25 Years.	25—45 Years	45—65 Years
Pulmonary ... ..	2	36	26	49	
Non-Pulmonary ... ..	2	9	5	5	...
Total ... ..	4	45	31	53	7

141 persons came to the Dispensary either for purposes of treatment or diagnosis. A number of the latter were found not to be suffering from tuberculosis, and ceased attending after the exclusion of the disease had been finally determined. Others were in a very advanced state of the disease and unsuitable for dispensary treatment. A few only attended once or twice after their return from a sanatorium, whilst some preferred to have treatment by their own doctor.

Altogether 86 patients underwent a more or less regular course of treatment at the Dispensary. Of these 70 (40 males and 30 females) were suffering from pulmonary tuberculosis (including 6 from pulmonary paratuberculosis) and 16 (9 males and 7 females) from non-pulmonary tuberculosis.

AGE PERIODS OF PATIENTS TREATED AT DISPENSARY.

	1—5 Years	5—15 Years	15—25 Years	25—45 Years	Total
Pulmonary Tuberculosis ...	...	24	17	29	70
Non-Pulmonary Tuberculosis ...	1	8	3	4	16
Total ...	1	32	20	33	86

Of the 70 pulmonary cases, 64 were definitely diagnosed as pulmonary tuberculosis, whilst in the case of 6, although there was an element of doubt as to the diagnosis, the provision of treatment appeared necessary. Several of these six cases were contacts of undoubted phthisis cases.

Of the 64 cases 31 were early cases (Stadium I.), 23 were moderately advanced cases (Stadium II.), and 10 were markedly advanced cases (Stadium III.). In 24 cases (37·5 per cent.) tubercle bacilli were found in the sputum. Several of the last group were quite hopeless cases, and were only taken on for treatment at their own special request.

The period of attendance varied from 11 months down to a few weeks, most of the latter being cases taken on at the end of the year. 20 of these patients completed a course of sanatorium treatment during the year, but continued with treatment at the Dispensary after their return home. In addition, 15 of the patients were away receiving sanatorium treatment at the end of the year.

The following tables give the results of treatment of 64 pulmonary cases, as found at the end of treatment or at the end of 1913.



## EARLY CASES (STADIUM I.).

Very much improved	...	...	10	(32.3 per cent.).
Improved	...	...	10	(32.3 per cent.).
Unchanged	...	...	3	(9.6 per cent.).
Worse	...	...	2	(6.4 per cent.).
Dead	...	...	1	(3.2 per cent.).
In Sanatorium	...	...	5	(16.2 per cent.).

## MODERATELY ADVANCED CASES (STADIUM II.).

Very much improved	...	...	2	(8.7 per cent.).
Improved	...	...	11	(47.8 per cent.).
Unchanged	...	...	7	(30.4 per cent.).
Worse	...	...	2	(8.7 per cent.).
Dead	...	...	1	(4.4 per cent.).

## MARKEDLY ADVANCED CASES (STADIUM III.).

Very much improved	...	...	1	(10 per cent.).
Improved	...	...	1	(10 per cent.).
Unchanged	...	...	5	(50 per cent.).
Worse	...	...	2	(20 per cent.).
Dead	...	...	1	(10 per cent.).

## ALL CASES.

Very much improved	...	...	13	(20.3 per cent.).
Improved	...	...	22	(34.4 per cent.).
Unchanged	...	...	15	(23.4 per cent.).
Worse	...	...	6	(9.4 per cent.).
Dead	...	...	3	(4.7 per cent.).
In Sanatorium	...	...	5	(7.8 per cent.).

With regard to the 3 deaths, one was a patient who was improving when he developed tubercular disease of the brain. The other two were advanced cases when they first came to the Dispensary.

At the end of 1913 there were 10 male patients at work and who had been working for periods varying from one to five months. Most of these had been incapacitated for work before commencing treatment, in two instances for as long as eight months.

So far as one can judge from the short period the Dispensary has been at work, the results may be regarded as satisfactory.

Dealing with a disease of such a chronic nature as phthisis and one ever ready to relapse after a period of quiescence, and dealing with a class of patients who are continually faced with the necessity of earning their daily bread often at unsuitable occupations or living at home under unhealthy conditions, one cannot be too cautious in speaking of the results of treatment. I have therefore of purpose refrained from using the word "cured," although the term might have been applied to several of the cases who are referred to as "very much improved." For instance one patient who had been treated during the year both at the Dispensary and Sanatorium for definite phthisis (with T.B. in sputum) was at the end of the year on applying for work examined on two separate occasions by two different medical men on behalf of the employers and passed as sound. There



are several others on the Dispensary Register who would now be just as easily passed as sound and fit, but the test of time must be applied before the word "cured" can unhesitatingly be given. So much depends on the patient's habits, on his intelligence, and powers of perseverance, as well as on his home and work conditions. Phthisis is a chronic disease. It as a rule develops slowly, often with periods of rest. It has been insidiously establishing itself in the lungs long before the patient is aware that anything is wrong, often long before the definite signs of the malady can be recognised by the physician. Where the physical signs of the disease are manifest and unmistakable, the disease is really advanced, although for purposes of classification the condition may be called early. The really early cases are the cases that cannot be diagnosed with certainty, but who can often be picked out as suspicious by the experienced physician. Such cases are most susceptible to suitable treatment, and should always get it. It is true that cases would get treatment who might really not be tubercular at all. Still no harm would be done them, and it is better to make a few mistakes of this kind than to allow the disease to advance in many others. It is for this class of case amongst school children that the open-air school affords such an excellent help towards the re-establishment of good health.

I am quite convinced that if the treatment of pulmonary tuberculosis is strictly limited to cases where the diagnosis can be made with all certainty, the crusade against the disease will fall short of the success which, with a broader view of the subject, it is capable of achieving. But whilst this is a class of case that especially deserves attention, the statistics of this report show that a great deal can be done to make for the recovery of the patients who already manifest definite signs of the disease, provided the ravages of the mischief are not too extensive or acute. It should, however, be borne in mind that the course of treatment must be prolonged if the results are to be satisfactory. In most of these cases at least twelve months' treatment is necessary. But as I have already said a great deal depends on the patient himself, and as I have often noted during the past year relapses were not infrequently due to some indiscretion on the part of the patient. Up to a certain point, nature seeks to effect a cure. Thousands of persons contract phthisis and recover from it without the least suspicion of the fact. Medical treatment can help this natural tendency to recover, but a still more important ally is the habit of healthy living on the part of the patient. As a natural corollary all efforts to improve the dwellings of the working classes, and the conditions under which they live and work, as well as to stimulate and educate the sanitary conscience must be regarded as matters of prime importance in dealing with the scourge of tuberculosis.

#### PARTICULARS OF CASES TREATED AT THE DISPENSARY.

The following table gives particulars of 64 cases of pulmonary tuberculosis treated at the Dispensary. Six doubtful cases are excluded.



# PARTICULARS OF CASES OF PULMONARY TUBERCULOSIS TREATED AT THE DISPENSARY

No. in Register.	Sex.	Age.	Married or Single.	Occupation.	Insured I. Dependent D. Other O.	Home Conditions at time of Notification.					Condition on First Attendance.				Treatment.		Condition at end of 1913 or at end of treatment where treatment discontinued before end of year.	Remarks.	
						Type of House.	No. of Rooms.	No. of Occupants.	Separate Bedroom.	Separate Bed.	Sanitary Defects.	Whether Working.	Stadium.	Tubercle Bacilli.	Duration of Illness.	Kind.			Duration.
1	M	10	S	Orphan ...	D	BB2	1 2	4 1	Yes	Yes	Sleeps at relatives house. Congested neighbour'hd	No	2	No	2 years	Tuberculin-Emulsio Morrhuae	11 months	Unchanged. Still attending	..
2	M	8	S	Child of Coal Miner ...	D	Th1	1 3	6 3	No	Yes	Overcrowding ...	No	3	Yes	1½ yr.	Tuberculin-Emulsio Morrhuae with Creasote	15 weeks	Much worse. Not attended since June	Disease advanced when first applied to Dispensary
3	M	37	M	Coal Miner ...	O	Th2	1 3	3 2	No	Yes	House new and occupied before quite dry	No	2	Yes	1½ yr.	Tuberculin	11 months	Unchanged. Still attending	Poor Law case. Extra nourishment supplied by Guardians
4	M	34	M	Police Constable ...	O	Th1	2 3	2 2	No	Yes	...	No	2	Yes	3 years	Tuberculin-Emulsio Morrhuae with Creasote-Creasote Inhalation	11 months	Worse. Still attending	Chronic case. In Sanatorium from 13-4-11 to 7-7-11, when condition improved, but disease not arrested
5	M	40	S	General Labourer ...	O	BB2	1 3	2 0	Yes	Yes	...	No	3	Yes	10 years	Emulsio Morrhuae ...	14 weeks	Unchanged. Not attended since 31-3-14	Very Chronic case
6	F	12	S	Child of Platelayer ...	D	BB2	1 1	3 0	No	Yes	...	No	1	No	3 years	Tuberculin ...	15 weeks	Improved. Not attended since 23-6-13	...
7	M	36	S	Roadman ...	O	BB3	1 2	4 0	Yes	Yes	Congested neighbourhood	No	3	Yes	16 years	Tuberculin-Emulsio Morrhuae with Creasote	11 months	Unchanged. Still attending	Poor Law case. Very chronic
8	F	23	S	Domestic Servant ...	I	Th2	2 3	6 0	Yes	Yes	...	No	3	Yes	1 year	Tuberculin-Emulsio Morrhuae with Creasote-Creasote Inhalation	10 months	Died 15-12-13	Quite hopeless case. In Sanatorium 3 months Sept. to Dec., 1912
11	M	34	M	Signalman ...	O	Th1	2 3	2 1	Yes	Yes	...	No	1	No	3 years	Tuberculin ...	10½ months	Improved. Still attending	...
12	M	30	S	Clerk ...	I	Th1	2 3	5 0	Yes	Yes	...	No	2	...	3 years	Tuberculin ...	3 weeks	Died 7-8-13	Ischio-Rectal Abscess developed. Treated at Clayton Hospital. Returned to Dispensary, but too ill for treatment Twice in Sanatorium in 1911
13	M	15	S	Colliery Pony Driver ...	O	BB3	1 1	3 1	No	No	Very poor dwelling ...	No	1	No	5 months	Tuberculin ...	4 weeks	Improved. Not attended since 20-2-13	Poor Law Case. Sent by Guardians to Sanatorium for 3 months. At end of 1913 said to be well and working
16	M	26	M	Coal Miner ...	I	BB2	4 2	3 4	No	No	...	No	1	No	4 months	Emulsio Morrhuae ...	10 weeks	Died 11-11-13. (Tuberculosis of Brain)	Came to Dispensary from Sanatorium (3 months). Cerebral symptoms began shortly after attending Dispensary
18	M	12	S	Child of Signalman ...	D	Th1	2 2	3 1	No	Yes	...	No	2	No	7 years	Tuberculin ...	10½ months	Improved. Still attending	...
19	M	9	S	Child of Signalman ...	D	Th1	2 2	3 1	No	Yes	...	No	2	No	3 years	Tuberculin ...	10½ months	Improved. Still attending	Brother of preceding case
20	M	10	S	Child of Teamer ...	D	BB2	1 1	3 2	No	Yes	...	No	1	No	1½ years	Tuberculin ...	10 months	Greatly improved. Ceased attending 18-12-13	...
21	F	27	M	Wife of Labourer ..	D	BB2	1 1	4 1	No	No	Overcrowding ...	No	2	No	1 year	Tuberculin Emulsio Morrhuae	3 months	Unchanged. Ceased attending since 22-9-13. Doing home work	Patient attended irregularly





PARTICULARS OF CASES OF PULMONARY TUBERCULOSIS TREATED AT THE DISPENSARY.—Continued.

No. in Register.	Sex.	Age.	Married or Single.	Occupation.	Insured I. D. Order O.	Home Conditions at time of Notification.					Sanitary Defects.	Condition on first Attendance.				Treatment.		Condition at end of 1913 or at end of treatment where treatment discontinued before end of year.	Remarks.	
						Type of House.	No. of Rooms.	No. of Occupiers.	Separate Bedroom.	Separate Bed.		Whether Working.	Stadium.	Tubercle Bacilli.	Duration of Illness.	Kind.	Duration.			
22	M	29	M	Asylum Attendant	O	Th 1	2 2	2 1	Yes	...	...	Yes	1	Yes	6 months	Dispensary, 24-2-13 to 21-8-13, Tuberculin Sanatorium 22-8-13 to 5-11-13. Dispensary 13-11-13 to end of year. Emulsio Morrhuae with Creasote Formalin Inhalations	Dispensary 7 months Sanatorium 3 months	Rather worse. Doing light open-air work	Patient got worse after severe attack of pleurisy	
27	M	10	S	Child of Cab Driver (deceased)	O	Th 1	2 2	4 0	No	No	...	...	1	No	5 months	Tuberculin	18 months	Greatly improved, attending School, and still attending dispensary	Father died Phthisis Feb., 1912	
28	F	11	S	Child of Coal Miner	D	Th 2	2 2	7 3	No	Yes	Overcrowding	...	3	No	3½ years	Tuberculin Emulsio Morrhuae with Creasote	9½ months	Slight improvement, still attending	...	
30	M	35	M	Driller in Foundry	1	BB 2	2 3	5 1	No	No	Ill-lighted and ill-ventilated house	No	1	Yes	2 months	Sanatorium 29-3-13 to 30-5-13 Tuberculin Dispensary 5.6-13 to 10-11-13, Tuberculin-Emulsio Morrhuae with Creasote. Domiciliary 10-11-13 to end of year	Sanatorium 2 months Dispensary 6 months	Worse, not working	Patient returned to work soon after leaving Sanatorium and regularly worked overtime	
31	M	13	S	Child of Plumber	D	Th 3	1 1	4 0	No	Yes	Dampness	...	1	No	5 years	Tuberculin	9½ months	Very greatly improved, left City	...	
32	M	24	M	General Labourer	I	Th 2	1 1	2 1	No	No	...	No	1	Yes	3 months	Dispensary Tuberculin Sanatorium	Dispensary 6½ months Sanatorium 3 months	Very much improved working 3 months, still attending Dispensary	...	
34	M	33	M	Bricklayer's Labourer	I	BB 2	1 2	2 4	No	No	Previous dwelling ill-lighted and ventilated	No	2	Yes	2 years	Dispensary Tuberculin Sanatorium	Dispensary 7 months Sanatorium 2 months	Improved. Working 3 months, still attending Dispensary	Originally a Poor Law case	
35	M	38	M	Foundry Labourer	I	BB 3	1 1	3 0	No	No	House ill-lighted	...	No	2	No	4 months	Emulsio Morrhuae with Creasote	7 weeks	Slight improvement, ceased attending 19-5-13	Voluntarily ceased attending
36	M	22	M	Coal Miner	I	Th 2	1 2	2 0	No	No	...	No	1	Yes	5 months	Dispensary Tuberculin Sanatorium Tuberculin	Dispensary 7 months, Sanatorium 9 weeks	Very much improved. Working 5 months. Still attending	...	
38	M	35	M	Foundry Labourer	I	BB 3	1 1	2 1	No	No	House ill ventilated	...	No	2	Yes	15 mnths	Sanatorium Dispensary Tuberculin	Sanatorium 5 weeks, Dispensary 9 months	Very much improved. Working 2 months.	...
41	F	42	M	Wife of Foundry Labourer	D	Th 1	2 3	3 4	No	No	...	Yes	2	No	11 years	Tuberculin Emulsio-Morrhuae with Creasote	8 months	No change. Still attending Dispensary	Chronic Case	
44	F	40	M	Wife of Railway Guard	D	BB 1	1 2	5 2	No	No	Congested Neighbourhood	No	3	No	5 months	Sanatorium Tuberculin Dispensary Tuberculin	Sanatorium 3 months, Dispensary 6 months	Much improved. Doing house work. Still attending Dispensary	...	
46	M	24	S	Foundry Labourer	I	BB 1	1 2	3 0	Yes	Yes	...	No	2	Yes	2 years	Sanatorium Dispensary Tuberculin	Sanatorium 3 months, Dispensary 4½ months	Patient ceased attending 14-6-13. Reported to be much better, and working at end of 1913	...	
48	F	13	S	Child of Coal Miner	D	Th 1	2 3	3 2	Yes	Yes	...	...	2	No	8 years	Sanatorium Dispensary Tuberculin	Sanatorium 6 weeks, Dispensary 9 months	Improved. Still attending	...	





PARTICULARS OF CASES OF PULMONARY TUBERCULOSIS TREATED AT THE DISPENSARY.—Continued.

No. in Register.	Sex.	Age.	Married or Single.	Occupation.	Insured I. D. Order O.	Home Conditions at time of Notification.					Condition on first Attendance.			Treatment.		Condition at end of 1913 or at end of treatment where treatment discontinued before end of year.	Remarks.				
						Type of House.	No. of Rooms.	No. of Occupiers.	Separate Bedroom.	Separate Bed.	Sanitary Defects.	Whether Working.	Stadium.	Tubercle Bacilli.	Duration of Illness.			Kind.	Duration.		
49	M	39	M	Road Foreman	...	I	Th 1	1	2	Yes	Yes	...	Yes	1	Yes	9 months	Sanatorium Dispensary Tuberculin	6 months	...	In Sanatorium	...
51	M	19	S	Teamer	...	I	Th 1	2 2 4	1 10 5	Yes	Yes	Overcrowding	...	No	1	Yes	4 months	Sanatorium Dispensary Tuberculin	Sanatorium 3 months, Dispensary 5 months	Very much improved. Working 4 months. Still attending Dispensary...	...
52	F	23	M	Wife of Coal Miner	...	D	BB 2	1 1	2 2	No	No	Defective Lighting and Ventilation...	No	3	Yes	2 years	Sanatorium Dispensary Guaiacol Inhalations	Sanatorium 2 months, Dispensary 3 months	Worse. Ceased attending Dispensary 9-10-13	...	
53	F	40	M	Charwoman	...	I	Th 1	2 4	5 0	No	Yes	...	No	3	No	2 years	Tuberculin-Emulsio-Morrhuae	3 months	Unchanged. Ceased attending 21-7-13	Left City	
57	M	20	S	Dyer's Labourer	...	I	Th 2	1 2	5 0	Yes	Yes	...	No	2	Yes	2½ years	Sanatorium Dispensary Emulsio-Morrhuae with Creasote, Guaiacol Inhalations Tuberculin, started in Sanatorium and continued after discharge 25-12-13	Sanatorium 2¾ months, Dispensary 4½ months	Unchanged. Not working. Attending Dispensary...	Complicated with Laryngeal Tuberculosis	
58	F	32	M	Wife of Coal Miner	...	D	Th 1	2 2	2 2	No	Yes	...	No	1	No	8 months	Tuberculin	2 months	Improved. Ceased attending 26-6-13, and well at end of year	Treatment preceding parturition	
61	F	11	S	Child of Coal Miner	...	D	Th 1	1 3	6 3	No	No	...	...	1	No	Indef.	Tuberculin	6½ months	Much improved. Still attending	Contact Case	
63	M	18	S	Colliery Pony Driver	...	I	BB 3	1 1	4 0	No	No	Overcrowding, Defective light and ventilation	No	1	No	2 months	Sanatorium Dispensary Tuberculin	Sanatorium 3 months, Dispensary 3 months	Much improved. Ceased attending Dispensary 20-10-12	Working and keeping well	
66	F	9	S	Child of Shoemaker	...	O	Th 1	2 2	6 1	No	No	...	No	1	No	Indef.	Emulsio-Morrhuae	6 months	Improved. Still attending Dispensary	...	
70	F	21	S	Weaver	...	I	Th 3	1 2	5 1	No	Yes	Lighting and ventilation bad	Yes	2	Yes	4 years	Sanatorium Dispensary Tuberculin	Sanatorium 3 months, Dispensary 3 months	Improved. Working 7 weeks. Still attending Dispensary	...	
71	F	36	M	Lodging-house Keeper	...	I	BB 2	2 2	5 1	No	No	...	...	1	Yes	6 months	Sanatorium Dispensary Emulsio-Morrhuae with Creasote Tuberculin, started at end of year	Sanatorium 3 months, Dispensary 3 months	Improved. Not working. Still attending Dispensary	...	
76	F	26	M	Wife of Traveller	...	D	Th 1	2 2	2 1	No	No	...	Yes	1	No	3 months	Emulsio-Morrhuae with Creasote, Petroleum Emulsion	6 months	Unchanged. Still attending	Recommended for Sanatorium, but declined	
87	F	29	M	Wife of Clerk	...	O	Th 1	2 3	2 0	No	No	...	Yes	1	No	2 months	Tuberculin	5 months	Improved. Left City...	...	
88	M	27	M	Lithographic Printer	...	I	BB 2	1 1	2 1	No	No	...	Yes	2	Yes	3 months	Sanatorium Dispensary Tuberculin	Sanatorium 2 months	Improved. Working (out-door). Attending Dispensary	...	
89	F	14	S	Millworker	...	D	BB 3	1 2	2 3	No	No	Overcrowding	...	No	1	No	2 months	Sanatorium Dispensary Tuberculin. Emulsio-Morrhuae with Creasote	Sanatorium 3 months, Dispensary 2 months	Much Improved. Attending Dispensary	...
90	F	32	S	Fireman	...	I	Th 1	2 2	3 1	Yes	Yes	...	Yes	1	No	6 months	Tuberculin. Emulsio-Morrhuae with Creasote	4 months	Improved. Still attending Dispensary	...	
93	F	17	S	Daughter of Coal Miner	...	D	Th 1	3 4	7 1	No	Yes	...	No	1	No	Indef.	Tuberculin	4½ months	Very much improved. Still attending Dispensary	Previously treated at Normanton Dispensary	
96	F	18	M	Wife of Blacksmith	...	D	Th 3	1 1	2 0	No	No	...	Yes	2	No	Indef.	Tuberculin	3½ months	Worse since Confinement. Still attending Dispensary	Was in Sanatorium in 1907	
101	F	23	S	Weaver	...	I	Th 1	2 2	4 1	No	Yes	...	No	1	Yes	4 weeks	Tuberculin	4 weeks	In Sanatorium		





PARTICULARS OF CASES OF PULMONARY TUBERCULOSIS TREATED AT THE DISPENSARY.—Continued.

No. in Register.	Sex.	Age.	Married or Single.	Occupation.	Insured I. Dependent D. Order O.	Home Conditions at time of Notification.					Condition on first Attendance.				Treatment.		Condition at end of 1913 or at end of treatment where treatment discontinued before end of year.	Remarks.		
						Type of House.	No. of Rooms.	No. of Occupiers.	Separate Bedroom.	Separate Bed.	Sanitary Defects.	Whether Working.	Stadium.	Tubercle Bacilli.	Duration of Illness.	Kind.			Duration.	
102	M	22	M	Colliery Byeworkman	I	BB3	1 1	2 1	No	No		No	1	Yes	4 weeks	Sanatorium Dispensary Tuberculin, Emulsio-Morrhua with Creasote	Sanatorium 4 weeks, Dispensary 9 weeks	Slight improvement. Working 6 weeks. Still attending Dispensary		
104	M	15	S	Screener at Colliery	D	Th 1	2 2	6 0	No	Yes		Yes	2	No	3 years	Tuberculin, Emulsio-Morrhua with Creasote	3½ months	Improved. Still attending Dispensary		
105	M	34	M	Platelayer	I	BB3	1 1	2 1	No	No	Ventilation and lighting bad	No	1	Yes	1 month	Dispensary Tuberculin Sanatorium	4 weeks	In Sanatorium		
110	F	13	S	Child of Coal Miner	D	Th 2	2 2	3 4	Yes	Yes		...	1	No	Indef.	Sanatorium Dispensary Tuberculin	Sanatorium 3 months, Dispensary 5 weeks	Improved. Still attending Dispensary		
111	F	11	S	Child of Coal Miner	D	Th 1	2 2	4 1	No	Yes		...	2	No	5 years	Emulsio Morrhua	3 months	Unchanged. Still attending Dispensary		
114	F	8	S	Child of Coal Miner	D	BB3	1 1	3 3	No	No	Overcrowding	...	3	No	...	Emulsio Morrhua with Creasote	3 months	Unchanged. Still attending Dispensary	Previously in Poor Law Infirmary	
115	M	29	M	Coal Miner	I	Th 1	3 4	5 3	Yes	Yes		...	1	No	5 weeks	Dispensary, Emulsio Morrhua, Syrup Ferri Phos. Co. Sanatorium	6 weeks	In Sanatorium		
122	F	16	S	Millworker	I	Th 2	2 3	8 0	Yes	Yes	Dampness	...	No	1	No	3 months	Dispensary, Emulsio Morrhua, Sanatorium	4 weeks	In Sanatorium	
123	M	32	S	Gardener	O	BB2	1 1	1 1	No	Yes		Yes	2	Yes	6 years	Emulsio Morrhua with Creasote	7 weeks	Improved, still attending Dispensary		
128	M	15	S	Millworker	D	Th 1	2 2	6 2	No	Yes		No	2	No	6 months	Emulsio Morrhua with Creasote	6 weeks	Greatly improved. Working. Still attending Dispensary.		
132	F	6	S	Child of Coal Miner	D	Th 3	1 3	8 1	No	No	Dilapidated	...	3	No	Indef.	Emulsio Morrhua with Creasote	5 weeks	Unchanged. Still attending Dispensary		
133	F	28	M	Wife of Labourer	D	BB3	1 1	2 4	No	No	Ventilation and lighting poor	...	1	No	1 year	Emulsio Morrhua with Creasote	4 weeks	Unchanged. Still attending Dispensary but recommended for Sanatorium.		
142	M	32	S	Clerk	I	Th 1	2 3	4 0	Yes	Yes		No	1	Yes	1 month	Emulsio Morrhua	1 week	Recommended for Sanatorium		
136	F	28	M	Wife of General Labourer	D	BB3	1 1	2 4	No	No	Dampness	...	Yes	1	No	2 years	General Treatment	4 weeks	Unchanged. Still attending	Recommended for Sanatorium
137	M	9	S	Child of Furnaceman	D	Th 2	1 2	6 1	No	No		...	2	No	3½ years	General Treatment	4 weeks	Unchanged. Still attending		

NOTE:—TYPE OF HOUSE.—Th—Through. BB—Back-to-Back. 1—Good Type of House. 2—Poor Type of House. 3—Bad Type of House.  
NUMBER OF ROOMS.—The upper number indicates living rooms, and the lower bedrooms.  
NUMBER OF OCCUPANTS.—The upper number indicates persons over 10 years of age, and the lower persons under 10 years of age.





## TREATMENT IN SANATORIUM.

22 patients completed a course of Sanatorium treatment during 1913. Of these 16 were insured persons, 5 dependents and 1 was neither insured nor dependent. The last case was treated by the County Council by arrangement with the City Council. Most of the cases spent three months in the sanatorium, but a few were in for short periods. Nearly all the cases benefited by treatment, and in half the cases the improvement was very marked. 14 of these patients were working at the end of the year. At the end of the year there were 5 patients (all insured) still undergoing treatment in sanatoria. Whilst in most cases the maximum period of stay in the sanatorium (3 months) was too short to thoroughly re-establish the health of the patients, yet it was often sufficient to give a powerful fillip towards recovery, and to enhance the success of subsequent treatment at the Dispensary. The educational value of sanatorium treatment is also very striking. Whilst one has often trouble enough to get the other Dispensary patients to keep their windows open, one has no such trouble with the ex-sanatorium patient. He has regained the natural healthy instinct for fresh air, and as they often tell me "they can't bear to be in a room with the windows closed." Incidentally the newly acquired habit is often a source of grievance to the other inmates of the house, who have not had an initiation into open-air life, and more than one wife has complained to me that the husband was inclined to "starve" her out of the home. Such patients are also often desirous of being provided with an open-air shelter to sleep in at home, but the lack of suitable ground to place one in generally prevents this being done. One patient was, however, provided with one by the County Council, and the Council is willing to provide shelters in all suitable cases. Ex-Sanatorium patients are also much more careful as to the disposal of their sputum, and as to the general precautions which do so much to protect from infection the other inmates of the dwelling.

When the sanatorium patient comes home, he is generally anxious to get back to work, and when that work is of an unsuitable character, a serious difficulty presents itself. Many of them are quite fit for light work in the open-air, but at least for the time being not fit for hard work in a stuffy workshop or down the coal pit. How to get them suitable employment is the problem and often a baffling one. During the year several have been able to change their usual employment with advantage, but a great many, though anxious to do so, have not been able, and have suffered in consequence. It seems to me some scheme might be worked out to assist patients in this dilemma.

The following table gives particulars of 21 patients who completed sanatorium treatment during 1913. One patient did not return to the City, and the particulars cannot be given.





# PARTICULARS RELATING TO PATIENTS TREATED IN SANATORIA.

Register No.	Sex.	Age.	Occupation.	Stadium.	T.B. Present	Sanatorium.	Tuberculin Treatment.	Length of Stay.	Date of Discharge.	Condition on Discharge.	Condition at end of 1913.
16	M	26	Coal Miner ...	1	No	Hemsworth ..	No	3 months ...	February, 1913 ...	Much improved. Gained 12 lbs.	Died 11/11/13 from Tuberculosis of Brain.
22	M	28	Asylum Attendant ...	2	Yes	Hemsworth ...	No	2½ months ...	5 November, 1913 ...	Slight improvement, but disease still active. Gained 3 lbs.	Unchanged. Doing light out-door work since returned home.
30	M	35	Driller in Foundry ...	1	Yes	Cardigan ...	Yes	9 weeks ...	30 May, 1913 ...	Improved, but disease not quiescent. Gained 12 lbs.	Patient returned immediately to work. His condition was maintained for a few months but became worse towards end of year, when he had to stop work.
32	M	24	General Labourer ...	1	Yes	Cardigan ...	Yes	3 months ...	July, 1913 ...	Very much improved but still signs of disease. Gained 6¾ lbs.	Appears quite well and has been working regularly for 3 months. Has been twice medically examined and passed in connection with his employment.
33	M	31	Insurance Agent ...	1	No	Hemsworth ...	No	3 months ...	March, 1913 ...	Very much improved. Disease appears quiescent.	Appears quite well. Has been working regularly for 8 months.
34	M	33	Bricklayer's Labourer	1	Yes	Cardigan ...	Yes	2 months ...	5 September, 1913 ...	Much improved but still signs of disease. Gained 10¾ lbs.	Has continued to improve. Has been working regularly for 3 months.
36	M	22	Coal Miner ...	1	Yes	Cardigan ...	Yes	9 weeks ...	June, 1913 ...	Improved. Gained 5 lbs, still slight signs of disease.	Very much improved. Working regularly at out-door occupation for 5 months.
44	F	40	Wife of Railway Guard	2	No	Keighley ...	Yes	3 months ...	July, 1913 ...	Improved, but still signs of active disease. Gained 9¾ lbs.	Very much improved. Has been doing housework for a few months.
46	M	24	Foundry Labourer ...	1	Yes	Cardigan ...	Yes	3 months ...	29 March, 1913 ...	Improved, but disease still active. Gained 14 lbs.	Very much improved. Been working regularly at light out-door occupation for several months.
48	F	13	Child of Coal Miner ...	2	No	Keighley ...	No	6 weeks ...	April, 1913 ...	Slightly improved. Gained 4 lbs.	Improvement maintained.
51	M	19	Teamer ...	1	Yes	Cardigan ...	Yes	3 months ...	23 August. 1913 ...	Very much improved. Disease appears quiescent. G'd 1s. 7¾ lbs.	Appears quite well. Has been working regularly for 4 months.
52	F	23	Wife of Coal Miner ...	2	Yes	Balby ...	Yes	6 weeks ...	28 July, 1913 ...	No improvement. Gained ¾ lbs.	Worse, but still going about.
57	M	20	Dyer's Labourer ...	2	Yes	Cardigan ...	Yes	3 months ...	23 December, 1913 ...	Slight improvement. Gained 4 lbs.	Slight improvement. Not able to work.
63	M	18	Colliery Pony Driver	1	No	Cardigan ...	Yes	3 months ...	23 August, 1913 ...	Much improved. Gained 8¾ lbs. Disease appears quiescent.	Appears quite well. Working regularly for 4 months.
70	F	21	Weaver ...	2	Yes	Keighley ...	Yes	3 months ...	12 November, 1913 ...	Much improved, but disease not quiescent. Gained 1 st.	Improvement maintained. Has been working regularly for 7 weeks.
71	F	36	Boarding House Keeper	1	Yes	Keighley ...	Yes	3 months ...	November, 1913 ...	Much improved but disease not quiescent. Gained 1st. 5 lbs.	Improvement just maintained, but not able to work.
80	M	20	Clerk ...	1	No	Hemsworth ...	No	3 months ...	19 July, 1913 ...	Very much improved. Disease appears quiescent.	Appears quite well. Working regularly for 5 months.
88	M	27	Lithographic Printer	1	Yes	Cardigan ...	Yes	2 months ...	November, 1913 ...	Improved, but still signs of active disease. Gained 12 lbs.	Improvement maintained. Has been working at out-door employment for 6 weeks.
89	F	14	Millworker ...	1	No	Balby ...	Yes	3 months ...	December, 1913 ...	Very much improved. Disease appears quiescent. G'd 1 st.	Very much better. Has started work again.
102	M	22	Colliery Byeworker ..	2	Yes	Cardigan ...	—	4 weeks ...	8 November, 1913 ...	Condition unchanged. Gained 2 lbs.	Slight improvement. Working.
110	F	13	Child of Coal Miner ...	1	No	Balby ...	Yes	9 weeks ...	December, 1913 ...	Improved, but disease not quiescent. Gained 11½ lbs.	Improvement maintained.





## CONTACTS.

An important part of Dispensary work is the observation and examination of persons in contact with cases of phthisis, particularly other members of the patient's family. In this way early cases of the disease may be detected and treatment at once provided.

## NON-PULMONARY TUBERCULOSIS.

22 patients suffering from different forms of Non-Pulmonary Tuberculosis applied for and 16 received tuberculin treatment at the Dispensary.

## TUBERCULAR ADENITIS.

9 cases applied for treatment and 7 were treated. 6 were females and 1 a male. 5 were between the ages of 5 and 15 and 2 over that age. All were treated with tuberculin (T.R.), and all showed some improvement. In several cases the improvement was very marked.

## TUBERCULAR PERITONITIS.

Two cases of Tubercular Peritonitis were treated. One case, a boy of 12, had a six months' course of tuberculin (T.R.), with marked improvement. The other case, a man aged 25 years, began treatment at the end of the year.

## LUPUS.

Two boys, aged 10 and 8 years, were treated for lupus of the face with tuberculin (T.R.) for eight months, with some slight improvement, and treatment was being continued at the end of the year.

## RENAL AND VESICAL TUBERCULOSIS.

Two men, aged 18 and 40 years, have been under treatment for renal and vesical tuberculosis. T.R. was employed in one case for nine months and in the other for three months. The former did not improve, but the latter has shown some improvement and was still continuing treatment at the end of the year.

## OTHER FORMS OF TUBERCULOSIS.

A case of spinal caries (aged 3 years), a case of hip joint disease (aged 35 years), and a case of sinus of chest (aged 41 years) were also treated with tuberculin.

## CANCER.

During 1913 there were 48 deaths from Cancer and other forms of malignant disease (20 males and 28 females), giving a death-rate of 0.96 per 1,000, which is higher than the rate in the preceding year (0.69) and also higher than the average for the preceding ten years (0.89).

## DEATHS IN WARDS.

Ward.	No. of Deaths.	Death Rate per 1,000 of Popula- tion.
St. John's... ..	5	1.14
Northgate ... ..	4	0.92
Eastmoor ... ..	5	1.08
Primrose Hill ..	6	1.11
North Westgate ...	3	0.60
South Westgate ...	4	1.07
Kirkgate ... ..	5	1.02
Calder ... ..	4	0.93
Alverthorpe ... ..	4	0.98
Belle Vue ... ..	3	0.54
Sandal ... ..	5	1.84
Whole City ... ..	48	0.96

## DEATHS AT AGE PERIODS.

25—35 years ... ..	2 deaths.
35—45 „ ... ..	6 „
45—55 „ ... ..	10 „
55—65 „ ... ..	10 „
65—75 „ ... ..	14 „
75—85 „ ... ..	6 „

## ORGANS AFFECTED.

Carcinoma of Intestines ... ..	10 deaths.
„ „ Stomach ... ..	9 „
„ „ Uterus ... ..	9 „
„ „ Breast ... ..	6 „
„ „ Liver ... ..	3 „
„ „ Esophagus ... ..	2 „
„ „ Tongue ... ..	1 death.
„ „ Lip ... ..	1 „
„ „ Jaw ... ..	1 „
„ „ Palate ... ..	1 „
„ „ Throat ... ..	1 „
„ „ Mediastinum ... ..	1 „
„ „ Liver and Bowel ... ..	1 „
„ „ Abdomen (unspecified) ... ..	1 „
„ „ Penis ... ..	1 „
Sarcoma of Pleura ... ..	1 „
„ „ Testis ... ..	1 „



## HEART DISEASE.

During 1913 there were 78 deaths (38 males and 40 females) from organic heart disease, giving a death-rate of 1·57 per 1,000, which is lower than the rate for the preceding year (1·77) and is exactly the same as the average for the preceding ten years (1·57).

## THE CITY HOSPITAL.

There were 170 patients admitted during the year, and the number remaining in hospital from 1912 was 6, these being included in the number under treatment.

Of the total 155 were discharged, 5 died, and 16 remained in hospital on January 1st, 1914.

## HOSPITAL STATISTICS, 1913.

Disease.	No. of Cases Remaining 31st Dec., 1912.	No. of Cases admitted 1913.	Total under Treatment	No. of Cases Discharged 1913.	No. of Cases Dying 1913.	Percentage Mortality.	Remaining 31st Dec., 1913.
Scarlet Fever	3	90	93	82	2	2·1	9
Diphtheria ...	3	79	82	73	3	3·6	6
Enteric Fever	0	1	1	0	0	0·0	1
Total ...	6	170	176	155	5		16

The average daily number of patients in hospital was 16, the maximum being 26 (September) and the minimum 6 (January).

## DIPHTHERIA.

There were 79 cases admitted, with a mortality of 3·7 per cent. and a mortality of 3·6 per cent. amongst those treated. One case was admitted in a hopeless state, and died within 15 hours after admission. If this be deducted from the total deaths, the percentage mortality would be 2·4 per cent.

Of the total number admitted eight cases were suffering from Laryngeal Diphtheria.

Tracheotomy was performed on one case which died.

## PARTICULARS OF THE DEATHS.

- (1). Boy, aged 7. Admitted 5th day of disease with severe albuminuria and extensive membrane on both tonsils. Urinary suppression and cardiac failure supervened, and he died on the 13th day.

- (2). Boy, aged 3. Admitted on (?) 3rd days of disease with severe laryngeal diphtheria and bronchopneumonia. Tracheotomy was immediately performed, but he died within 15 hours.
- (3). Boy, aged 9. Admitted 4th day of disease with extensive membrane on tonsils, uvula, palate and tonsillar abscess. Membrane spread, hæmorrhages from nose, stomach, and rectum occurred, and he died from hæmorrhagic diphtheria and heart failure on the 15th day.

RELATION OF DEATHS AND RECOVERIES TO THE DURATION OF ILLNESS  
PRIOR TO ADMISSION (EXCLUDING "CARRIERS").

Days.	2	3	4	5	6	7	8	14	21
Deaths ... ..	...	1	1	1	...	...	...	...	..
Recoveries .. ...	10	15	11	11	8	8	2	1	1
Mortality Percentage ...	...	6·2	8·3	8·3	...	...	...	...	...

There were six cases admitted to hospital, which although showing no clinical signs of Diphtheria were found on bacteriological examination to be "carriers" of the disease. The average duration of stay in hospital of these cases was 37 days.

As in former years many of the cases admitted on a late day of disease had antitoxin before admission.

Thirty-three cases were treated with antitoxin in hospital with an average dose of 7,000 units each.

The average duration of stay in hospital was 49 days. This is considerably higher than last year (30 days), and is possibly due to the fact that many of the cases admitted were of a severe type, and many others on account of the chronic morbid condition of the throat persistently showed in bacteriological examination the presence of diphtheria bacillus.

One case alone was kept in hospital 102 days on account of a severe endocarditis.



## REVISION OF DIAGNOSIS.

Six cases admitted as Diphtheria were revised to Tonsillitis.  
Two cases admitted as Diphtheria were revised to Scarlet Fever.

## COMPLICATIONS ON ADMISSION.

Albuminuria ... ..	2	Scarlet Fever ... ..	1
Broncho-Pneumonia ...	1	Chickenpox ... ..	1
Otorrhœa ... ..	1	Fracture of Femur ...	1
Rhinorrhœa ... ..	1	Hip Disease ... ..	2

## COMPLICATIONS AFTER ADMISSION.

Suppression of Urine ...	1	Endocarditis ... ..	1
Broncho-Pneumonia ...	2	Rhinorrhœa ... ..	3
Relapse ... ..	1	Adenitis (Secondary) ...	1
Chickenpox ... ..	1	Antitoxin Rash ... ..	2
Paralysis of Palate ...	4	Paralysis of Legs ...	2

## SCARLET FEVER.

There were 90 cases admitted and 93 cases were under treatment during the year, with a mortality of 2·1 per cent.

The following table shows the day of disease on which the 90 cases were admitted:—

1st day ... ..	5	7th day ... ..	4
2nd ,, ... ..	12	8th ,, ... ..	1
3rd ,, ... ..	25	14th ,, ... ..	2
4th ,, ... ..	19	21st ,, ... ..	1
5th ,, ... ..	11	28th ,, ... ..	2
6th ,, ... ..	8		

The average duration of stay in hospital was 33 days, the maximum being 81 days and the minimum being 9 days.

## COMPLICATIONS ON ADMISSION.

Rhinorrhœa ... ..	1	Diphtheria ... ..	4
Otorrhœa ... ..	4	Septic Sores ... ..	1
Rheumatism ... ..	2	Ulcerated Throat ...	1

## COMPLICATIONS AFTER ADMISSION.

Otorrhœa ... ..	6	Relapse ... ..	2
Rhinorrhœa ... ..	4	Nephritis ... ..	1
Rheumatic Pains ...	5	Broncho-Pneumonia ...	1
Secondary Adenitis ...	7	Jaundice ... ..	1
Meningitis ... ..	1		

## REVISION OF DIAGNOSIS.

Four cases admitted as Scarlet Fever were revised to Erythema.  
Two cases admitted as Scarlet Fever were revised to German Measles.



## PARTICULARS OF THE DEATHS.

- (1). Boy, aged 6. Admitted 5th day of disease with a severe septic type of disease, Otorrhœa, Rhinorrhœa, Purulent Conjunctivitis, and marked Adenitis. He improved at first, but developed symptoms pointing to meningitis, from which he died on the 60th day of disease.
- (2). Girl, aged 5. Admitted 3rd day of disease, delirious, with an anginose type of disease, never quite conscious in hospital, and she died in 54 hours.

## TYPHOID FEVER.

One case (a girl, aged 14) was admitted to hospital in October, and remained in hospital at the end of the year.

## FINANCIAL STATEMENT.

The City Accountant has kindly supplied me with the following return, showing the cost of maintaining the hospital during the year ended 31st December, 1913:—

	£	s.	d.
Salaries and Wages ... ..	381	17	11
Groceries, etc. ... ..	382	14	1
Soap and Cleansing Materials ...	7	8	4
Drugs and Disinfectants ... ..	53	8	1
Coal, Gas, and Water ... ..	99	17	9
Printing, etc. ... ..	9	13	5
Furniture, Bedding, etc. ... ..	62	1	10
Rent of Telephones ... ..	10	10	0
Rates and Insurance ... ..	138	13	2
Removal of Patients and Bedding ...	58	0	0
Repairs ... ..	85	13	3
Uniforms ... ..	5	0	0
Miscellaneous ... ..	21	5	7
	<hr/>		
	£1,316	3	5
	<hr/>		

## ADMINISTRATION.

The nursing staff of the hospital consists of a Matron, 2 Charge Nurses, and 4 Probationer Nurses. Mrs. Whitham resigned the office of Matron at the end of April, 1913, and was succeeded by Miss Peck, the Senior Charge Nurse. Mrs. Whitham had rendered great service by her wise and vigilant management of the hospital, and her death so soon after relinquishing her office was deeply regretted by all who knew her.

The hospital was occupied to a larger extent than it has been for some years, especially towards the end of the year, and the staff have worked hard and loyally.

There have been the usual difficulties about the isolation of cases of mixed infection, but at the time of writing, plans for the extension of the hospital are before the Local Government Board, and I trust that at no distant date, we will have all that is needed in the way of hospital accommodation.

### SANDAL HOSPITAL.

This hospital was used for the reception of the case of Smallpox which occurred at the end of April. It was then thoroughly disinfected, but was not further used during the year. It was, however, kept ready for occupation.

### DISINFECTION.

Disinfection of houses was carried out with Formalin Spray or Formalin Fumigation. Disinfection of bedding, etc., was effected in a Washington-Lyon Steam Disinfector at the Corporation Fever Hospital.

Number of Houses Disinfected	...	...	329
Number of Rooms Disinfected	...	...	424
Number of Schools Disinfected	...	...	11
Number of School Class Rooms Disinfected	...	...	25
Number of Times Steam Disinfector used	...	...	488

### NUMBER OF ARTICLES DISINFECTED.

Beds	...	...	...	...	...	369
Mattresses	...	...	...	...	...	316
Blankets	...	...	...	...	...	675
Sheets	...	...	...	...	...	341
Counterpanes	...	...	...	...	...	412
Pillows	...	...	...	...	...	603
Bolsters	...	...	...	...	...	283
Curtains	...	...	...	...	...	315
Carpets	...	...	...	...	...	267
Rugs	...	...	...	...	...	151
Articles of Men's Clothing	...	...	...	...	...	101
Articles of Women's Clothing	...	...	...	...	...	195
Articles of Children's Clothing	...	...	...	...	...	467
Miscellaneous	...	...	...	...	...	1,150
Total						5,645

It will be noted that the disinfection work has been heavier than usual on account of the increased prevalence of infectious disease during the year.

### BACTERIOLOGICAL EXAMINATIONS.

Dr. Kaye, the County Medical Officer of Health, informs me that during 1913 the following number of specimens were forwarded to the County Council Bacteriological Laboratory at Wakefield by medical practitioners in the City and myself:—

Sputum (Tuberculosis)	...	...	...	280
Throat Swabs (Diphtheria)	...	...	...	360
Blood (Enteric Fever)	...	...	...	7
Urine (Enteric Fever)	...	...	...	2
Urine (Tuberculosis) ....	...	...	...	18
Hairs (Ringworm)	...	...	...	398
Milk (Tuberculosis)	...	...	...	4
Various (Specimens of Food, etc.)	...	...	...	100
Total ...				1,169

There has been a considerable increase in the number of specimens sent into the Laboratory from Wakefield. The numbers indeed have been increasing year by year, and the special attention now paid to Tuberculosis has greatly augmented the number of sputum specimens sent during the past year.



## FACTORY AND WORKSHOP ACT, 1901.

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“The Medical Officer of Health of every District Council shall, in his Annual Report to them, report specifically on the administration of this Act in Workshops and Workplaces, and he shall send a copy of his annual report or so much of it as deals with this subject to the Secretary of State.”—Section 132.

### ANNUAL REPORT

of the Medical Officer of Health for the year 1913, for the City of Wakefield, on the administration of the Factory and Workshop Act, 1901, in connection with

FACORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

#### 1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises. 1	Number of		
	Inspections. 2	Written Notices. 3	Prose- cutions. 4
Factories (including Factory Laundries).....	14	2	None
Workshops (including Workshop Laundries)	66		None
Workplaces (Other than Outworkers' premises included in Part 3 of this Report)			
Total .....	80	2	—

# FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

## 2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions
	Found.	Remedied.	Referred to H.M. Inspector.	
1	2	3	4	5
<b>Nuisances under the Public Health Acts*:</b> —				
Want of Cleanliness .....	4	4		
Want of Ventilation .....	1	1		
Overcrowding .....				
Want of Drainage of floors .....				
Other Nuisances .....	3	3		
Sanitary { insufficient .....	33	33		
accommo- { unsuitable or defective ....	2	2		
dation { not separate for sexes ...	4	4		
	1	1		
<b>Offences under the Factory and Workshop Act:</b> —				
Illegal occupation of underground bake-houses (S. 101) .....				
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) .....				
Other offences				
(Excluding offences relating to outwork which are included in Part 3 of this Report.) .....				
<b>Total</b> .....	48	48		

\*Including those specified in sections 2, 3, 7 and 8, of the Factory and Workshop Act as remediable under the Public Health Acts.

Nature of Work.	Outworkers' Lists, Section 107.										Outwork in Unwholesome Premises, Sect. 108			Outwork in Infected Premises, Sections 109, 110.		
	Lists received from Employers.						Notices served on Occupiers as to keeping or sending lists.	Prosecutions.		Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 110)	
	Twice in the year.		Once in the year.		Failing to keep or permit inspection of lists.	Failing to send lists.										
	Outworkers		Outworkers													
	Lists	Con- tractors	Work- men.	Lists.				Con- tractors	Work- men.							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Wearing Apparel—																
(1) Making, &c., ...																
(2) Cleaning and washing ...																
Household Linen ...																
Lace, lace curtains and nets																
Curtains & furniture hangings																
Furniture and upholstery ...																
Electro-plate. File making...																
Brass and brass articles ...																
Fur pulling ...																
Cables and chains ...																
Anchor and grapnels...																
Cart gear...																
Locks, latches, and keys																
Umbrellas, &c. ...																
Artificial flowers																
Nets, other than wire nets																
Tents, Sacks ...																
Racquet and tennis balls																
Paper, etc., boxes, paper bags																
Brush making. Pea picking...																
Feather sorting...																
Carding, &c., of buttons, &c.																
Stuffed Toys- Basket making																
Chocolates and sweetmeats ...																
Total	8	7	13													



4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.	Number.
Bakehouses (Factories) ... ..	4
Bakehouses (Workshops) ... ..	27
Dressmaking ... ..	28
Millinery... ..	23
Tailoring ... ..	19
Boot Repairing ... ..	15
Joinery ... ..	13
Upholstering ... ..	6
Rag Sorting ... ..	5
Saddlery ... ..	4
Cycle Repairing ... ..	4
Hosiery ... ..	2
Coach Building ... ..	2
Various ... ..	35
Total number of workshops on Register ...	192

5.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories:—	—
Failure to affix Abstract of the Factory and Workshop Act (S. 133) .....	1
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5)	—
Other .....	—
Underground Bakehouses (S. 101):—	—
Certificates granted during the year .....	—
In use at the end of the year .....	3

Section 22 of the Public Health Amendment Act, 1890, is in force in Wakefield, and, as far as possible, the standard of sanitary accommodation of the various Workshops on the Register conforms, as regards sufficiency and suitability, with the Sanitary Accommodation Order of 1902. This Order requires one closet for every 25 persons employed, and separate accommodation for the sexes.

## HOUSING.

## A. NEW HOUSES.

According to information supplied me by the City Surveyor there were 105 houses erected in the City during 1913. The following is a list of houses erected in the various wards:—

## SANDAL WARD.

Barnsley Road ...	...	3
Manygates Lane ...	...	3
Woodcock Street ...	...	7
Acme Terrace ...	...	11
Oakland Road ...	...	2
		—
		26
		—

## BELLE VUE WARD.

Fieldhouse Street ...	...	2
Hudswell Street ...	...	2
Warwick Street ...	...	11
Oakenshaw Street ...	...	2
May Bush Road ...	...	1
		—
		18
		—

## ALVERTHORPE WARD.

Wilhelm Avenue ...	...	4
Flanshaw Lane ...	...	1
Alverthorpe Road ...	...	1
		—
		6
		—

## PRIMROSE HILL WARD.

Warrengate ...	...	3
Kirkgate ...	...	1
Marsland Terrace ...	...	5
		—
		9
		—

## EASTMOOR WARD.

Stanley Road ...	...	4
Greenhill Road ...	...	2
		—
		6
		—

## SOUTH WESTGATE WARD.

Wauchope Street ...	...	6
Chald Lane ...	...	1
		—
		7
		—

## CALDER WARD.

Green End Lane ...	...	3
Horne Street ...	...	2
Thornes Lane ...	...	10
Welbeck Street ...	...	7
Avondale Street ...	...	3
Barnsley Road ...	...	1
Denby Dale Road ...	...	1
		—
		27
		—

## ST. JOHN'S WARD.

Buxton Place ...	...	1
Clifton Place ...	...	1
Oxford Road ...	...	1
		—
		3
		—

## NORTH WESTGATE WARD.

Dewsbury Road ...	...	3
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## KIRKGATE WARD.

*Nil.*

## NORTHGATE WARD.

*Nil.*

The following list gives the number of new houses erected in each of the last 14 years:—

1913 ... ..	105 houses.	1906 ... ..	19 houses.
1912 ... ..	125 „	1905 ... ..	51 „
1911 ... ..	173 „	1904 ... ..	85 „
1910 ... ..	115 „	1903 ... ..	135 „
1909 ... ..	63 „	1902 ... ..	87 „
1908 ... ..	56 „	1901 ... ..	66 „
1907 ... ..	28 „	1900 ... ..	162 „

## B. HOUSING INSPECTION.

### STATISTICS OF HOUSING INSPECTION, 1903-1912.

Year.	No. of Houses Inspected.	No. of Houses reported defective.	No. of Defects reported.	No. of Houses Unfit for Habitation.	No. of Houses Closed by Order.	No. of Houses Voluntarily Closed.	No. of Houses Demolished by Order.	No. of Houses Voluntarily Demolished.	No. of Houses made Habitable.
1913	278	207	645	5	1	1	1	1	—
1912	230	192	490	3	1	0	—	1	1
1911	472	257	604	10	1	3	—	1	5
1910	742	148	517	—	—	—	—	—	—
1909	790	101	—	8	3	—	—	—	5
1908	584	83	—	2	—	—	—	2	—
1907	902	221	—	3	—	—	—	—	3
1906	1283	—	—	14	14	—	—	—	4
1905	Special	Report	by Medical Officer of Health on 88 insanitary houses.						
1904	—	—	—	6	4	—	—	—	2
1903	Special	Inspection	by Medical Officer of Health of 272 houses.						
	—	—	—	13	12	—	—	—	—
Total ...	1906-13 5281			64	36	4	1	5	21

During 1913 systematic inspections of dwelling-houses were made in certain parts of the City in accordance with the Housing Regulations of the Local Government Board. These inspections were mainly carried out in Milton Street, New Street, Stanley Road, and Thornes Lane District.



The following table gives a summary of the results of these inspections:—

	Total.	District No. 1.	District No. 2.	District No. 3.
Number of Houses Inspected ... ..	278	50	74	154
<i>Defects Found:—</i>				
Dilapidations ... ..	95	35	50	10
Dampness ... ..	50	5	18	27
Defective Lighting ... ..	13	3	1	9
Defective Ventilation ... ..	68	—	45	23
Dirty ... ..	3	—	3	—
Overcrowded (more than 2 persons per room)	47	10	27	10
Water not laid on ... ..	19	5	7	7
No Sink ... ..	27	3	17	7
Drainage Defects ... ..	50	7	21	22
Closet Defects ... ..	29	5	21	3
Ashes Receptacle Defects ... ..	69	12	15	42
Yard Surface Defects ... ..	73	9	43	21
Nuisances from keeping Animals ... ..	—	—	—	—
Other Nuisances or Defects ... ..	75	6	25	44
Total Number of Defects ... ..	618	100	293	225
Number of Houses showing Defects ... ..	207	35	73	99
Houses totally unfit ... ..	5	—	4	1
Houses not reasonably fit ... ..	34	4	17	13
Houses with Minor Defects ... ..	168	31	52	85
Number of Houses for which Informal Notices to execute Works were served during 1913 ... ..	191	29	65	97
Number of Houses for which Statutory Notices to execute Works were served during 1913 (Sec. 15) ... ..	1	1	—	—
Number of Houses for which Statutory Notices to execute Works were served during 1913 (P.H. Acts) ... ..	1	1	—	—
Number of Houses in which Defects remedied during 1913, in compliance with Notices served during 1912 ... ..	59	15	37	7
Number of Houses in which Defects remedied during 1913, in compliance with Notices served during 1913 ... ..	73	—	—	73
Total Number of Houses in which Defects remedied during 1913 ... ..	132	15	37	80
Number of Houses (excluding houses unfit for habitation) in which Defects not remedied at end of 1913 ... ..	191	50	63	72
Number of Houses represented unfit for human habitation ... ..	5	—	4	1

	Total	District No. 1.	District No. 2.	District No. 3
Number of Houses in respect of which Closing Orders were made (Housing Acts) ... ..	1	—	—	1
Number of Houses closed after Order made	—	—	—	—
Number of Houses in respect of which Demolition Orders were made ...	1	1	—	—
Number of Houses demolished under Demolition Order ... ..	1	1	—	—
Number of Houses voluntarily closed ...	1	—	—	1
Number of Houses voluntarily demolished	1	—	—	1
Total Number of Houses closed during 1913	2	1	—	1
Number of Houses in which room repre- sented unfit for human habitation and closed (Wakefield Improvement Act, Sec. 59) ... ..	1	—	1	—
Number of Houses represented as unfit and made fit ... ..	—	—	—	—

It will be observed that defects were found in about 75 per cent. of the houses inspected. The bulk of the houses inspected were old and of a type in which one would naturally expect to find a fairly high percentage of defects. 191 or 70 per cent. of the houses inspected were back-to-back, a type of house which has not been built in Wakefield for nearly forty years.

17 per cent. of the houses were stated to be overcrowded, on the basis of more than two persons per room, which is the method employed by the Registrar-General in his Census Returns. The percentage of overcrowded houses in the whole City at the last Census was 12.1. 11 of the houses were very badly overcrowded.

With one exception all the defects were dealt with by informal notice. A considerable number of these notices had not been complied with at the end of the year, but these chiefly related to notices which had been served towards the end of the year. It will be noted that 4 houses reported as unfit for habitation had not been made fit at the end of the year, but these houses have been made fit since that date.

A very good improvement was carried out in Paradise Row, Bridge Street, by the demolition of one house to let in more light and air, the reconstruction of the water closets, paving of the yard and general repair of the dwelling-houses, all of which was done voluntarily by the owner. The improvement here followed the lines adopted in Johnson's Place in the previous year, and is a method which could be applied with great advantage to many yards in the City.



With regard to closing of dwelling-houses we have had to proceed very cautiously, owing to the continued and indeed increasing dearth of houses in the City. For the same reason we are compelled to tolerate many cases of overcrowding which, with a sufficient supply of house accommodation, ought not to be permitted. At the time of writing this Report, progress has been made with regard to the erection of new houses by the City Council. Part of the scheme has already been approved by the Local Government Board, and no doubt the remainder will soon be approved. The scheme provides for the erection of over 100 dwelling-houses. The Westgate Insanitary Area has also been the subject of a Local Government Board Inquiry, but approval to proceed with the scheme has not yet been received.

When dealing with the housing question, I should like to express my appreciation of the steps now being taken by the Corporation towards providing those suitable open spaces which are so much wanted throughout the City.

A field just over 2 acres in extent in the Eastmoor district has been leased, and it is also proposed to set apart about the same area of the grounds in which the now disused Alverthorpe Sewage Works were placed. The provision of such open spaces throughout the City—and many more are needed, particularly in or near the more densely populated localities—cannot but be beneficial to the public health, and will add much to the natural pleasures of the people. I am also glad to note the increasing demand for allotments, which seems to me a very healthy sign of the times.

#### HOUSES-LET-IN-LODGINGS.

At the end of the year there were 25 houses registered as houses-let in lodgings (*i.e.*, houses where furnished rooms are sublet to different families), providing accommodation for 270 adult lodgers. As I have stated before the number registered is no true index of the number existing, because there is no legal obligation to register. The houses have, on the whole, been kept clean and satisfactory, but there remains the objections to these houses which I have mentioned in previous reports, but which apparently cannot be remedied under existing law. In the following table I give some particulars of 13 of these houses, which are all situated in one street:—



No. of Rooms.	No. of Families.	Rent of House.	Water Supply	Sink.	Water-Closets	Inmates and Rent.			Total Inmates
						Ground Floor	First Floor.	Second Floor.	
2	2	3s. 2d. weekly } 3/7½ £1 3s. 4d. rate }	In Ground Floor Room	In Ground Floor Room	1 to 2 houses used by 7a, 4c	2 over 10, 5s.	2 over 10, 4/8		4
2	2	3s. 2d. weekly } 3/7½ £1 4s. 9d. rate }	Do.	Do.	1 to 2 houses used by 8a, 1c	2 over 10, 1 under 10, 5s.	2 over 10, 4 8		5
3	3	3s. 6d. weekly } 4/4½ £2 7s. 4d. rate }	Do.	Do.	1 to 1 House used by 6a, 1c	2 over 10, 5s.	2 over 10, 1 under 10, 4 8	2 over 10, 4/8	7
3	3	3s. 4d. weekly } 3/10 £1 7s. 0d. rate }	Do.	Do.	1 to 2 houses used by 13a, 4c	2 over 10, 1 under 10, 5s.	2 over 10, 4/8	2 over 10, 3 under 10, 4 8	10
3	3	Freehold £2 19s. 7d. rate	On Landing First Floor	On Landing First Floor	1 to 1 house used by 7a	2 over 10, 5s.	2 over 10, 1 under 10, 7s.	3 over 10, 3 under 10, 7s. (2 rooms)	11
4	3	Freehold £2 19s. 7d. rate	In Passage Ground Floor	In Passage Ground Floor	1 to 1 house used by 6a, 2c	2 over 10, 2s.	2 over 10, 1 under 10, 6s.	2 over 10, 1 under 10, 4 8	8
2	2	Freehold No rate	In Ground Floor Room	In Ground Floor Room	1 to 1 house used by 6a, 4c	2 over 10, 5s.	2 over 10, 1 under 10, 4 8		5
3	3	3s. 3d. weekly } 3/8½ £1 4s. 9d. rate }	Do.	Do.	1 to 2 houses used by 11a, 1c	2 over 10, 5s.	2 over 10, 4 8	1 over 10, 3 6	5
3	3	3s. 3d. weekly } 3/8½ £1 4s. 9d. rate }	Do.	Do.	1 to 2 houses used by 11a, 1c	2 over 10, 5s.	2 over 10, 1 under 10, 4 8	2 over 10, 4/8	7
3	3	3s. 3d. weekly } 3/8½ £1 4s. 9d. rate }	Do.	Do.	1 to 3 houses used by 19a, 4c	2 over 10, 5s.	2 over 10, 1 under 10, 4 8	2 over 10, 1 under 10, 4s.	9
3	3	3s. 3d. weekly } 3/8½ £1 4s. 9d. rate }	Do.	Do.	1 to 3 houses used by 19a, 4c	2 over 10, 5s.	2 over 10, 4 8	2 over 10, 4s.	6
3	3	3s. 3d. weekly } 3/8½ £1 4s. 9d. rate }	Do.	Do.	1 to 3 houses used by 19a, 4c	2 over 10, 1 under 10, 5s.	3 over 10, 4 8	2 over 10, 4s.	8
3	3	3s. 9d. weekly } 4/8½ £2 10s. 4d. rate }	Do.	Do.	1 to 2 houses used by 12a, 5c	2 under 10, 5s.	2 over 10, 1 under 10, 4 6	2 over 10, 4s.	7

## COMMON LODGING-HOUSES.

At the end of 1913 there were 23 common lodging-houses on the register, two additional ones having been added during the year. 13 of the houses are registered, and 10 are subject to a yearly licence. The total accommodation provides for 860 adults. The number of inspections made by the Sanitary Inspectors was 349, including 10 night inspections. Generally speaking the houses are kept clean and satisfactory, but, as I have pointed out before, several of the old houses in New Street and Providence Street are structurally not very satisfactory.

During the year, the Sanitary Committee have had under consideration the question of a Women's Hostel or Common Lodging-house for women only. When one considers that there is not a single common lodging-house in the City that caters for women only, and further, that the lodging-houses that do take in women are, generally speaking, of the lower type, there does seem something to be said in favour of such an institution. At the same time, as probably the demand for beds would be very small, there would be a considerable loss to the Corporation over such a lodging-house. As a preliminary scheme, at any rate, the Committee decided to try and arrange for two or three rooms in a suitable dwelling-house to be reserved for the purpose of lodging such women as might apply, but up to the present suitable accommodation has not been secured.

## SLAUGHTERHOUSES.

There are 32 slaughterhouses on the register, including the Public Slaughterhouse. Of the 31 slaughterhouses, 10 are registered and 21 are subject to an annual licence.

The Meat Inspector paid 3,812 visits to the slaughterhouses during the year, and generally speaking they have been kept in a satisfactory condition. Some of them, however, as I have pointed out previously, are not satisfactorily situated, and this objection applies as much to the Public Slaughterhouse as any. In many other respects the Public Slaughterhouse is not up to modern requirements, and I would again urge the great desirability of erecting one Public Slaughterhouse sufficiently large to serve the needs of the whole City, properly equipped, and situated if possible in the vicinity of the Cattle Market.

## INSPECTION OF MEAT AND OTHER FOODS.

Inspector Elkington, the Food Inspector, has prepared for me the following Report on Food Inspection during 1913 :—

“I have much pleasure in submitting my first Annual Report upon the meat inspection of the City.

‘During the past year there have been 278 seizures, with a total weight of 1,508 stones 6 lbs., comprising:—

261	Meat ...	...	Weighing	1,065	stones	0	lbs.
5	Vegetables	...	,,	383	,,	11	,,
3	Fruit	...	,,	25	,,	4	,,
6	Fish ...	...	,,	24	,,	7	,,
1	Sweets	...	,,	8	,,	3	,,
2	Rabbits	...	,,	1	,,	9	,,

“The meat seizures may be sub-divided as follows :—



TABLE 1.

Animal.	Tubercular Diseases.					Other Diseases.				
	Whole Carcasses	Weight	Partial Seizures	Weight	Total.	Total Weight	Whole Carcasses	Weight	Partial Seizures	Weight
	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.
Bovines ...	5	289 7	52	134 11	57	424 4	4	201 8	63	119 5
Calves ...	...	...	...	...	...	...	5	20 9	1	2 2
Pigs ...	6	56 13	68	94 6	74	151 5	3	20 2	27	13 4
Sheep ...	...	...	...	...	...	...	13	101 7	14	12 10
Total ...	11	346 6	120	229 3	131	575 9	25	343 12	105	145 7
										489 5

Seizures—Grand Total ... 261  
Weight —Grand Total ... 1065 stones.

TABLE 2.—TUBERCULAR DISEASE IN BOVINES.

	Whole Carcasses	Weight.		Partial Seizures	Weight.		Total.	Total Weight.	
		st.	lb.		st.	lb.		st.	lb.
Cows	3	183	5	43	116	4	46	299	9
Other Bovines...	2	106	2	9	18	7	11	124	9
	1	289	7	52	134	11	57	424	4

“It is gratifying to state that it has only been necessary on 5 occasions to obtain a formal Magistrate’s Order for the condemnation of the foods seized, as compared with 9 in 127 seizures of last year.

“The sale of fat from diseased carcasses for the purpose of converting it into tallow, which was granted to the butchers on June 11th, 1913, has proved to be a saving of valuable commercial material and an appreciable reduction in the loss sustained by the owners of condemned carcasses. In 11 cases the fat was sold for tallow, with a total weight of 49 stones 4 lbs., realising the sum of £6 5s. 4d.

“The number of inspections made in connection with meat inspection during the year were:—

Slaughterhouses	...	...	3,812
Foreign Meat Shops	...	...	229
Borough Markets	...	...	252

“and the seizures were effected at the following places:—

Private Slaughterhouses	...	...	112	seizures.
Public Abattoir	...	...	97	„
Isolation Slaughterhouse	...	...	22	„
Borough Markets	...	...	16	„
Foreign Meat Shops	...	...	17	„
English Meat Shops	...	...	8	„
Railway Stations (Goods Dept.)	...	...	6	„
Total			278	„

“Percentage of Seizures due to Tubercular Disease	...	50.19
“Percentage of Bovines affected with Tubercular Disease	...	1.86
“Percentage of Pigs affected with Tubercular Disease	...	1.67
“Percentage of all Animals slaughtered in the City with disease	...	1.39
“Percentage of all Animals slaughtered in Private Slaughterhouses affected with disease	...	1.32
“Percentage of all Animals slaughtered in the Public Abattoir affected with disease	...	1.20.”

#### NUMBER OF ANIMALS SLAUGHTERED IN WAKEFIELD DURING 1913.

Where Slaughtered.	Beasts.	Calves.	Pigs.	Sheep.	Total.
Public Slaughterhouse	1862	250	610	5387	8109
Private Slaughterhouses	1197	167	3797	3272	8433
Total for Year	3059	417	4407	8659	16542

The figures given above indicate that a very close supervision has been maintained over the food supply of the City during the year.



The number of inspections made and the number of seizures of unsound food are both considerably in excess of the previous year.

The number of animals slaughtered in the City during 1913 was about the same as in the previous year, although the proportion slaughtered in private slaughterhouses had increased.

With regard to the butchers, they have continued to work harmoniously with the Sanitary Department, and it has not been necessary to take any legal proceedings against one during the year. The concession with regard to the fat of surrendered animal carcasses is, I think, quite a proper one. The fat is disposed to a candlemaker in the City, and in the presence of the Meat Inspector is put into a vat on his premises.

Proceedings were taken in December against a stall-keeper in the Market for exposing for sale and selling chocolates in an unwholesome condition, and a fine of £2 with 8/- costs was imposed.

#### MILK SUPPLY.

There are registered in accordance with the Dairies, Cowsheds, and Milkshops Order (1885) at the end of 1913:—

Cowkeepers and Purveyors of Milk residing within the							
City	...	...	...	...	...	...	32
Purveyors of Milk residing within the City	...	...	...	...	...	...	23
Purveyors of Milk residing without the City	...	...	...	...	...	...	8

The cowsheds and milkshops have been regularly visited by the Inspectors, and every effort made to maintain or improve their sanitary condition, and to secure a clean and wholesome supply of milk. The structural condition of some of the sheds could be improved with advantage, and one would like to see a higher standard of cleanliness practised in many. As regards structural improvements, the defective sheds are all old buildings, and really in need of re-construction altogether. As the onus of doing this is laid by law on the tenant, there is obviously a serious obstacle to getting anything done beyond minor alterations and improvements. With regard to cleanliness, whilst there remains much to be desired in many places, I feel sure there is some improvement going on.

During the year we had the amount of dirt present in milk sold to the public investigated in 16 instances.

10 samples of milk were taken in July when the cows were at grass, and the amount of sediment estimated by Dr. Chaplin, with the following results stated in parts per 100,000 by volume:—3·5, 1·5, 3·0, 2·0, 2·0, 0·5, 6·0, 1·0, 0·5, and 16·0. The average amount was 3·6. 6 further samples were taken in November when the cows were housed, with the following results:—4·0, 2·0, 4·0, 4·0, 3·0, and 1·5. The average amount was 3·1.



Taking, as Dr. Chaplin suggests in his report, 4 parts per 100,000 as a permissible amount of sediment, two of the above samples were in excess and one very much so. In both cases there was unmistakable evidence of dung in the sediment. Both offenders were specially cautioned, and the following circular was issued to all cowkeepers and purveyors of milk in the City:—

“22nd October, 1913.

“Dear Sir,—

#### “DIRT IN MILK.

“The Sanitary Committee of the Wakefield Corporation have had “under consideration reports from the City Analyst with regard to “the presence of dirt in certain samples of milk submitted to him for “analysis.

“Many of the samples of milk examined were clean and satisfactory, but several contained considerable amounts of dirt, and in “some there was unmistakeable evidence of pollution with manure.

“The Sanitary Committee have instructed me to communicate “with all dairymen and purveyors of milk within the City, and to “intimate that in future samples of milk containing an excessive “amount of dirt or showing the presence of manure will be regarded “as contravening the Food and Drugs Acts, and that the vendors of “such milk will be liable to prosecution. The Committee, however, “hope that when the attention of dairymen is specially drawn to this “matter, those who in the past have possibly neglected to take the “necessary precautions will no longer continue to do so.

“I enclose a leaflet on ‘Cleanliness in the Dairy,’ issued by the “Board of Agriculture, which provides sound and practical advice on “this matter. If every dairyman would take pains to carry out the “instructions given in the leaflet, I am sure there would remain “little cause for complaint as regards unclean milk.”

#### TUBERCULOSIS AND MILK.

Six samples of mixed milk were taken during the year for bacteriological examination at the County Hall Laboratory, and all were found to be free from tubercular infection. Two of them were from cows in the City and four from cows outside. At the same time there is a great need for systematic veterinary inspection of dairy cattle, and at the time of writing the matter is receiving the special attention of the Sanitary Committee. The need for this is emphasised by the fact that during the year the Meat Inspector found in the slaughterhouses the udders of two cows very markedly affected with tuberculosis, and both of these cows had come out of cowsheds in the City.

## TUBERCULOSIS ORDER OF THE BOARD OF AGRICULTURE, 1913.

This Order came into force on the 13th May, 1913, and is for the purpose of reducing the risks of tubercular infection of human beings through milk, as well as for reducing the spread of the disease among bovine animals themselves. The Order is administered in Wakefield by the Police Department and the Veterinary Surgeon acting under the Disease of Animals Acts.

The Order requires that "every person having in his possession "or under his charge (1) any cow which is or appears to be suffering "from tuberculosis of the udder, indurated udder, or other chronic "disease of the udder, or (2) any bovine animal which is or appears "to be suffering from tuberculosis with emaciation shall without avoid- "able delay give information of the fact to a constable of the police "force for the area wherein the animal is, or to an Inspector of the "Local Authority, and the Constable or Inspector shall transmit the "information to the Local Authority, who if not themselves the Sani- "tary Authority, shall inform that Authority."

A veterinary surgeon called in to attend an animal suffering in the aforementioned manner must notify the fact to the Local Authority.

The Order provides for the veterinary examination of all animals reported, and, if the veterinary surgeon reports the animal to be so suffering, for the slaughter of the animal. Compensation is also provided for. If the animal is found after slaughter not to be affected with tuberculosis, the Local Authority has to pay full value of the animal (as agreed upon before slaughter or as determined by a valuer) plus a further sum of twenty shillings. If the animal is found to be affected with tuberculosis, but not in an advanced state, the Local Authority has to pay three-fourths of the value of the animal, and if affected with tuberculosis in an advanced state one-fourth of the value.

The Order further requires that the milk from a cow appearing to suffer from chronic disease of the udder or from tuberculosis with emaciation shall not be mixed with other milk until the cow has been examined by a Veterinary Inspector and until the owner has been notified that the animal is not suffering from tuberculosis, and during this time the milk from the cow must be boiled or otherwise sterilised, as well as the utensils used.

Every cow which appears to be suffering from the conditions aforementioned must be isolated as far as practicable from other bovine animals until the Veterinary Inspector has reported the animal to be not so suffering.



The occupier of any premises on which there has been an animal affected in the way mentioned, shall, if required by the Inspector of the Local Authority, cleanse and disinfect the part of the premises in which the animal was kept.

This Order applies to any bovine animal exposed in a market, fair, or sale.

Only one animal (a cow) was notified in Wakefield during the year, and it was found, after slaughter, to be affected with advanced tubercular disease.

## ANALYSIS OF FOOD AND DRUGS, 1913.

### A.—SAMPLES TAKEN.

Nature of Article.	No. of Samples Taken for Analysis.		No. Found Adulterated		Percentage Adulterated.	
	In-formal	Formal	In-formal	Formal	In-formal	Formal
Milk ... ..	...	41	...	11	...	26·8
Milk (Dirt) ... ..	...	16	...	2	...	12·5
Cream ... ..	8	...	7	...	87·5	...
Butter ... ..	31	...	2	...	6·4	...
Cheese ... ..	10	...	...	...	...	...
Lard ... ..	5	...	...	...	...	...
Coffee ... ..	7	...	...	...	...	...
Margarine ... ..	2	...	2	...	100·0	...
Demarara Sugar ... ..	3	...	...	...	...	...
Sweets (Mixtures) ... ..	4	...	2	...	50·0	...
Jelly Squares ... ..	3	...	...	...	...	...
Camphorated Oil ... ..	9	...	...	...	...	...
Baking Powder... ..	6	2	2	1	33·3	50·0
Ground Rice ... ..	4	...	...	...	...	...
Whisky .. ...	...	3	...	...	...	...
Rum ... ..	...	2	...	...	...	...
Total ... ..	92	64	15	14	6·1	21·7



## B.—ADULTERATED SAMPLES.

Name of Article.	Nature and Amount of Adulteration.		Proceed-ings.	Fine.	Costs.	Remarks.
Milk	...	Deficiency Milk Fat 6·7 per cent. ...				3 further sam- ples taken & found genuine
„	...	Added Water 5·77 per cent.				3 further sam- ples taken & found genuine
„	„	„ „ 4·5 per cent...				
„	...	„ „ 5·88 per cent...	Yes			Case dismissed.
„	...	„ „ 7·3 per cent...	Yes			Case withdrawn.
„	...	Deficiency Milk Fat 6·67 per cent ...				Further sam- ples taken & found genuine
„	...	Added Water 7·0 per cent...				Town Clerk was instruct- ed to write the vendor.
„	...	„ „ 6·7 per cent...				Town Clerk was instruct- ed to write the vendor. Considering the result of proceedings with case No. 22, the Com- ittee did not take proceed- ings.
„	...	„ „ 2·7 per cent...				Further sam- ple taken & found genuine
„	...	„ „ 1·88 per cent...				
„	...	„ „ 3·1 per cent...				

Name of Article.	Name and Amount of Adulteration.	Proceed-ings.	Fine.	Costs.	Remarks.
Butter ...	Boric Acid (Undeclared) 0·13 per cent...				
„ ...	Boric Acid (Undeclared) 0·17 per cent...				
Baking Powder	Available Carbonic Acid... 5·46 per cent				Further sam- ples to be taken from next whole- sale supply.
„ „	Available Carbonic Acid 2·36 per cent...				
„ „	Available Carbonic Acid 3·26 per cent...				
Sweets (Mixtures)	Traces of Copper ... ..				
Margarine ...	„ „ Boric Acid ...				
Thick Rich Cream	Contains Boric Acid, un- declared, 0·52 per cent...				Warning let- ter sent by M.O.H. Explanatory letter sent.
6 Preserved Creams	Contains Boric Acid not exceeding 0·5 per cent...				
Milk (Diri) ...	Contains 6 parts per 100,000				The Town Clerk was in- structed to write the ven- dor.  do.
„ „	Contains 16 parts per 100,000				

## ANALYST'S REMARKS.

The following remarks are taken from the quarterly reports of the City Analyst (Dr. Chaplin).

## REPORT FOR FIRST QUARTER OF 1913.

"I beg to report that during the quarter ending March 31st, 1913, I have received 20 samples for analysis under the Sale of Food and Drugs Acts, namely:—

Butter	...	...	...	...	...	6
Cheese	...	...	...	...	...	4
Coffee	...	...	...	...	...	7
Demerara Sugar	...	...	...	...	...	3
						<hr/> 20 <hr/>

"The analysis of the samples of Butter showed them to be free from foreign fat, boric acid, or excess of water.

"The Cheeses too proved to be made from milk fat and to contain it in fair proportion.

"The samples of Coffee were found to be pure and unmixed with chicory.

"A careful examination of the Demerara Sugars showed them to contain no foreign colouring matter and to possess those qualities usually associated with sugars of this class.

"The fact that all these samples were informally taken and proved to be genuine, appears to indicate that the purveyors of food in the City exercise much care to secure articles of pure quality."

## REPORT FOR SECOND QUARTER OF 1913.

"I beg to report that during the quarter ending June 30th, 1913, I have received 48 samples for analysis under the Sale of Food and Drugs Act, namely:—

FOODS.	Milk	...	...	...	...	...	16
	Butter	...	...	...	...	...	4
	Baking Powder	...	...	...	...	...	8
...	Ground Rice	...	...	...	...	...	4
	Lemon Jelly	...	...	...	...	...	3
	Sweets	...	...	...	...	...	4
DRUGS.	Camphorated Oil	...	...	...	...	...	9
							<hr/> 48 <hr/>

"The 16 Milks and 2 of the Baking Powders were official samples and the remainder were taken informally.



“ Of the Milks 13 came within the limits laid down by the Sale of Milk Regulations. It is generally held that milk is at its worst as regards quality during the months of May and June, but this year’s samples do not bear this out, the average amount of fat found in those returned as genuine being as high as 3·7. The particulars relating to the three adulterated milks are as follows:—No. 43 showed 6 per cent. deficiency of fat, No. 48 5·77 per cent. of added water, and No. 50 was under the limit both as regards fat and non-fatty solids, the deficiency of the former being 13·3 per cent., while that of the latter indicated the presence of 4·5 per cent. of added water.

“ The Butters were all free from foreign fat or excess of water. One of the samples contained 0·13 per cent. of Boric Acid. Strictly speaking this must be regarded as an adulterated sample, since whilst the regulations permit Boric Acid in Butter to the extent of 0·5 per cent., it is laid down that its presence should be declared.

“ Three of the Baking Powders were found to be weak in the active constituent, namely, ‘available’ Carbonic Acid. The standard usually adopted is 6 per cent., and it is not at all an unattainable one.

“ All the other samples were returned as genuine.

“ For some time past now, efforts have been made in certain districts to secure a higher degree of cleanliness in the milk delivered for sale, and the matter is being taken up by an increasing number of authorities. In districts where samples have been taken it is reported that a very marked improvement has been effected, the quantity of ‘dirt’ or sediment found in many cases having been very materially reduced.”

#### REPORT FOR THIRD QUARTER OF 1913.

“ I beg to report that during the quarter ending September 30th, 1913, I have received 42 samples for analysis under the Sale of Food and Drugs Acts, namely:—

FOODS.	Milk	...	...	...	...	9
	Milk for dirt	...		...	...	10
	Butter	...	...	...	...	15
	Cream	...	...	...	...	8
						—
						42
						—

“ Of the nine Milks analysed as many as five were found to be below the limit. This proportion is quite exceptional, and I have no doubt the dry weather of the past summer will be blamed for the poor quality of the five abnormal samples. The fact, however, that some of the other samples were of excellent quality confirms

“ what has been observed in other years of drought, that if care be  
 “ taken to regulate the feeding of the cows, good milk can readily be  
 “ produced, and it seems to me lamentable that children and invalids  
 “ who depend so much upon a milk diet should be made to suffer  
 “ when the cause is preventable.

“ The hint conveyed in my last report that samples of milk  
 “ should be submitted for a determination of the amount of dirt or  
 “ sediment has, I am glad to say, been acted upon, and the results  
 “ obtained show that such an examination is abundantly justified.  
 “ While some of the samples showed as little as half a part per  
 “ 100,000, one contained 6 parts and another as much as 16 parts.  
 “ Undoubtedly amounts such as these reveal carelessness such as one  
 “ does not like to contemplate in the handling of this article of food.

“ Two of the samples submitted as butter were found to be  
 “ wrapped in margarine covers, and proved on analysis to consist of  
 “ margarine. Whether the fraud was intentional or not I am unable  
 “ to say, but one can imagine that in the case of a purchaser coming  
 “ in by train on a Saturday from the country much annoyance would  
 “ be felt if on the return home it were discovered that the butter  
 “ desired were, in reality, margarine.

“ The samples of cream were all taken informally. With the  
 “ exception of two all bore labels stating that Boric Acid was present  
 “ in amounts ranging from one quarter to half a per cent., and the  
 “ analysis showed them to come practically within these limits. Of  
 “ the two not so marked one was free from Boric Acid, but the other  
 “ contained rather more than half a per cent., and was returned as  
 “ adulterated.”

#### REPORT FOR FOURTH QUARTER OF 1913.

“ I beg to report that during the quarter ending the 31st Decem-  
 “ ber, 1913, I have received 46 samples for analysis under the Sale  
 “ of Food and Drug Acts, namely:—

Milk	...	...	...	...	...	16
Milk for Dirt	...	...	...	...	...	6
Butter	...	...	...	...	...	8
Lard	...	...	...	...	...	5
Cheese	...	...	...	...	...	6
Whisky	...	...	...	...	...	3
Rum	...	...	...	...	...	2
						<hr/> 46 <hr/>

“ Three of the Milks were below the limit fixed by the Regula-  
 “ tions, the deficiency was only small, and in each case was in the  
 “ non-fatty solids. Two of the samples contained a good percentage



“of fat, namely, 3·6 and 3·7 respectively, the remaining sample showing just 3 per cent. The other milks varied much in quality, three or four being really excellent while several were barely up to the limit.

“The testing of milk for sediment appears already to be bearing fruit, none of the samples examined exceeded the limit we have decided upon, namely, 4 parts per 100,000, and one was as low as 1·5 parts. I feel sure that by taking occasional samples for the purpose of this examination the cleanliness of the milk supply will be greatly enhanced.

“Perhaps I may be allowed to refer to another matter which, although it has nothing to do with the Sale of Food and Drugs Act, is quite analagous to the test I have been alluding to, namely, the work under the Rag Flock Act. This Act has proved of great benefit, and as your Committee is charged with its administration, you will be interested to know that an immense improvement has been noticeable in the flocks submitted for examination since it came into force.

“With the exception of one of the Butters the remaining samples this quarter have proved to be free from adulteration. This Butter contained a small percentage of Boric Acid, the proportion of water too was unusually high, but not quite up to the limit allowed.”

#### COMPOSITION OF THE MILK SUPPLY.

Dr. Chaplin has kindly prepared the following table showing the average composition of milk samples examined by him during 1913:—

	Fat Percentage.	Non-Fatty Solids Percentage.
Genuine Samples ... ..	3·6	8·72
Adulterated Samples ... ..	3·09	8·23

#### REPORT OF ADMINISTRATION IN CONNECTION WITH THE “PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912,” DURING THE YEAR 1913.

By these Regulations a definite restriction has been placed on the use of preservatives by producers, retailers, and others concerned in the milk and cream trade; no preservative is to be added to milk in any case and no preservative is to be added to cream which is sold as cream. The Regulations, however, do not prohibit the sale of cream containing boric acid, borax, or a mixture of these preservative substances or hydrogen peroxide provided:—

- (1) That it is sold, not as cream, but as preserved cream, and



- (2) That the vessel in which it is sold bears a declaration in the prescribed form showing the amount and nature of the particular preservative added.

The following table in the form prescribed by the Local Government Board gives the particulars of samples taken during 1913:—

1. MILK AND CREAM NOT SOLD AS PRESERVED CREAM.

		Number of Samples Examined for the presence of a Preservative.	Number in which a Preservative was reported to be present.
Milk ...	...	41	—
Cream	...	2	1

The one sample of cream sold as cream in which a preservative was found contained 0·52 per cent. of boric acid. The sample was purchased by the Inspector at a dairy, and the vessel containing the cream was labelled “thick rich cream.” A notice stating that all cream sold from the premises contained a preservative was exhibited in the dairy, and on being communicated with, the dairyman stated that he thought the exhibition of such notice was a compliance with the Regulations. It was, however, pointed out to him that the exhibition of such a notice was only sufficient in restaurants, etc., where the cream is consumed on the premises, and he promised to see that in future proper labels were attached to all vessels containing preserved cream. He was also warned as to the excessive amount of boric acid present in the cream.

2. CREAM SOLD AS PRESERVED CREAM.

- (a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct.

(1) Correct statements made	...	...	6
(2) Statements incorrect	...	...	None

In four instances it was declared that the cream contained not more than 0·5 per cent. of boric acid, in one instance not more than 0·4 per cent. of boric acid, and one instance not more than 0·25 per cent. of boric acid. The actual percentage of boric acid found in each sample was respectively :—0·24, 0·23, 0·21, 0·26, 0·16, and 0·19.

- (b) Determination made of milk fat in cream sold as preserved cream :—

(1) Above 35 per cent.	...	...	...	6
(2) Below 35 per cent.	...	...	...	None

The actual fat percentages were 64·3, 57·7, 59·0, 61·3, 52·8, and 59·0.

- (c) Instances where (apart from analysis the requirements as to labelling or declaration of preserved cream in Article V. (1) and the proviso in Article V. (2) of the Regulations have not been observed.

In all the 6 samples these requirements were complied with.

### 3. THICKENING SUBSTANCES.

Analysis did not reveal the presence of any thickening substances.

### 4. OTHER OBSERVATIONS.

All the foregoing samples were taken during the month of September and all were taken informally. With regard to the amount of boric acid found in these samples, I should like to observe that whilst in my opinion preservatives should be absolutely prohibited in cream, the amount of boric acid present, if it is allowed, should never exceed 0.25 per cent. It would appear that these Regulations, even if the prescribed procedure is complied with, do not preclude action under the Food and Drugs Acts if the preservative added is of such a nature and in such quantities as likely to cause injury to health. It is well to point this out, because there is an impression abroad that any amount of boric acid may with impunity be added to cream, provided the amount does not exceed that declared on the label. Such a declaration does certainly afford protection to the vendor under the Public Health (Milk and Cream) Regulations, but does not under Section 3 of the Food and Drugs Act, 1875.

### WATER SUPPLY.

The water supply continues to maintain its excellent character for purity, as the following reports on Analyses made by the City Analyst (Dr. Chaplin) will show. The treatment for counteracting the natural plumbo-solvency of the water, which is derived from peaty moorland, also continues to be successful. No case of lead poisoning of any kind was brought to my knowledge during the year. The bacterial content also continues low.



## No. 1. (BEFORE TREATMENT).

REPORT ON THE ANALYSIS OF WATER TAKEN AS IT FLOWED FROM THE  
RINGSTONE MAIN INTO THE RESERVOIR AT ARDSLEY,  
11TH AUGUST, 1913.

The sample contains in parts per 100,000:—

Chlorides equal to Common Salt ... ..	1.98
Nitrogen as nitrates and nitrites, equal to Nitric Acid ... ..	None
Poisonous Metals ... ..	None
Free Ammonia ... ..	0.068
Albuminoid Ammonia ... ..	0.014
Oxygen absorbed by organic and other oxy- dizable matter ... ..	0.05
Degrees of Hardness (each degree representing a soap-destroying power equivalent to one grain of chalk per 100,000) ... ..	3.8
Total Dissolved Solid Matter ... ..	6.3
Suspended Matter ... ..	Very small
Smell when warmed to 100deg. Fahrenheit ...	Peaty
Reaction ... ..	Acid
Lead taken up in 12 hours ... ..	1.8 parts per 100,000

At the time this sample was taken but little water was flowing into the reservoir, and it carried only a very small amount of sediment with it.

The proportion of dissolved solid matter which the last analysis showed to be unusually high is now quite normal.

## No. 2. (AFTER TREATMENT).

REPORT ON THE ANALYSIS OF WATER TAKEN FROM THE LABORATORY TAP  
IN THOMPSON'S YARD, 11TH AUGUST, 1913.

The sample contains in parts per 100,000:—

Chlorides equal to Common Salt ... ..	2.16
Nitrogen as nitrates and nitrites, equal to Nitric Acid ... ..	None
Poisonous Metals ... ..	None
Free Ammonia ... ..	0.001
Albuminoid Ammonia ... ..	0.0012
Oxygen absorbed by organic and other oxydizable matter ... ..	0.02
Degrees of Hardness (each degree representing a soap-destroying power equivalent to one grain of chalk per 100,000) ... ..	4.12
Total Dissolved Solid Matter ... ..	8.9
Suspended Matter ... ..	Faintly opalescent
Smell when warmed to 100 deg. Fahrenheit ...	Not distinct
Reaction ... ..	Slightly Alkaline



As was the case in May last the water shows no trace of nitrates ; it is very free from organic matter and in every way of excellent quality.

#### OFFENSIVE TRADES.

The following offensive trades are on the register:—

Tripe Boiling	...	...	...	...	7
Gut Scraping	...	...	...	...	1
Tallow Melting	...	...	...	...	1
Boné Boiling	...	...	...	...	1

The inspectors paid 402 visits to these premises during 1913, and no complaints have been received with regard to them.

There would, however, be a great advantage in having a trade like tripe boiling centralised on suitable premises connected with a Public Abattoir.

Nothing was done during the year with regard to Fried Fish Shop Bye-laws, but at the time of writing a series of bye-laws have been prepared, and are now awaiting the confirmation of the Local Government Board.

#### SANITARY CONVENIENCES.

During 1913, 92 privies and 27 tub closets were converted into water closets, and 10 additional water closets were erected. In other words, 129 sanitary closets took the place of 119 insanitary closets. All the conversions were carried out voluntarily by the owners, except in one case, where the owner was summoned for causing a nuisance through insanitary privies. However, before the case was heard, he consented to do the work, and the summons was withdrawn.

#### NUMBER OF PRIVIES AND TUB CLOSETS IN THE CITY AT THE END OF 1913.

Ward.				Number of Privies.	Number of Tub Closets.	Total.
St. John's	...	...	...	14	—	14
Northgate	...	...	...	6	10	16
Eastmoor	...	...	...	4	30	34
Primrose Hill	...	...	...	11	11	22
North Westgate	...	...	...	11	5	16
South Westgate	...	...	...	2	5	7
Kirkgate	...	...	...	20	30	50
Calder	...	...	...	22	7	29
Alverthorpe	...	...	...	28	—	28
Belle Vue	...	...	...	310	—	310
Sandal	...	...	...	214	9	223
Whole City	...	...	...	642	107	749

The above table shows that in the old area of the City there only remain 118 privies and 98 tub closets, but in the Sandal and Belle Vue Wards there are still 524 privies and 9 tub closets.

Towards the end of 1913 an inquiry was made as to the number of dwelling-houses in the City not provided with water closets, and it was ascertained that there were 814 houses not so provided, or about 7 per cent. of the total houses in the City. 677 of these were provided with privies and 137 with tub closets. Of the 677 houses provided with privies, 551 were situated in District No. 3, which includes Belle Vue and Sandal Wards.

PUBLIC LAVATORIES.

Up to the end of the year the question of providing further lavatory accommodation in the central and other parts of the City was still under consideration, but there has been great difficulty in securing suitable sites. The need for further accommodation is unquestionable.

## NUISANCES.

Total Number of Inspections made in 1913	...	...	...	21,547
Number of Informal Notices served	...	...	...	274
" " " " complied with	...	...	...	248
" " Statutory Notices served	...	...	...	74
" " " " complied with	...	...	...	59
" " " " outstanding at end of 1913	...	...	...	15
" " " " served in 1912 and complied with in 1913	...	...	...	10
" " Nuisances reported during 1913	...	...	...	386
" " " abated during 1913	...	...	...	386
" " " in hand at end of 1912	...	...	...	18
" " " " " " " " 1913	...	...	...	18
" " Summonses served during 1913	...	...	...	1

Out of the 74 legal notices served it was only necessary to prosecute in one case, that relating to insanitary privies, and this was withdrawn upon the owner undertaking to carry out the necessary work. The nuisance caused by offensive fumes from the burning heap of colliery refuse at Wrenthorpe Colliery, and referred to in my last Annual Report, continued to be kept abated during the year, although there was evidence that the fire was still smouldering under the covering of sand.

The effluvia nuisance from the Chald Lane Chemical Works came to an end with the stoppage of the works during the year.

With regard to the smoke nuisance, 113 observations of factory chimneys were taken by the Chief Sanitary Inspector during the year, and in 87 of these black smoke was reported as nil. In 19 instances black smoke issued for less than 5 minutes per hour, in 5 instances

between 5 and 10 minutes, in 1 instance between 10 and 20 minutes, and in 1 instance over 20 minutes. The wire rope works in Denby Dale Road continues to be the worst offender, but even here the alterations made to the furnaces, etc., appear to have slightly mitigated the nuisance.

### SEWERAGE AND SEWAGE TREATMENT.

I am indebted to the City Surveyor for the following information relating to 1913:—

#### NEW SEWERS.

A new sewer has been laid in Woodthorpe Lane, Barnsley Road, for a distance of 412 yards. The Denby Dale Road sewer has been re-constructed for a length of 302 yards, the old brick culvert being substituted with 21-inch and 24-inch diameter earthenware pipes.

#### TRAPPED GULLIES.

The following trapped gullies have been inserted:—

STREET.	EARTHENWARE GULLIES.		CAST-IRON GULLIES.	
New Street ...	...	1	...	—
Mark Lane	...	—	...	1
Bull Ring ...	...	—	...	1
Peterson Road	...	1	...	2
Batley Road	...	—	...	1
Park Street	...	1	...	—
Back Bond Street	...	1	...	—
Vicarage Street	...	2	...	—
Charles Street	...	1	...	—
St. John's North	...	5	...	—
Grove Road	...	2	...	—
Richard Street	...	3	...	—
Stanley Road	...	1	...	—
Northgate ...	...	2	...	—
Henry Street	...	2	...	—
Back Anderson Street	...	1	...	—
Markham Street	...	1	...	—
Plumpton Road	...	1	...	—
Andrew Street	...	2	...	—
Field Lane	...	1	...	—
Pincheon Street	...	2	...	—
Agbrigg Road	...	1	...	—
Leeds Road	...	1	...	—
Dewsbury Road	...	1	...	—
Leonard Street	...	1	...	—
		34		5



### VENTILATING SHAFTS.

The Corporation have during the past year erected ventilating shafts and columns in the following positions:—

	SHAFTS.	COLUMNS.
Saw Yard ... ..	1	—
Denby Dale Road ...	4	—
Holmfild Lane ... ..	1	—
Jacob's Well Lane...	1	—
Peterson Road ... ..	—	1
	—	—
	7	1
	—	—

### PRIVATE STREET WORKS.

During the past year the following Private Streets have been made up under the Wakefield Corporation Act, 1887:—

Jessop Street.  
 Pilkington Street.  
 Basford Street.  
 Hanover Street.

These streets were covered with tarred limestone macadam, at a cost of £952.

Dale Street. This street was paved with Yorkshire setts, at a cost of £377.

The total length of Private Streets made up amounted to 315 yards.

### TAR-SPRAYING.

The weather during the tar-spraying season of 1913 was very favourable for this class of work.

The following roads were tar-sprayed:—

MAIN ROADS.	SQUARE YARDS.
Bradford Road (whole main road in City) ...	2,680
Stanley Road do. ...	910
Horbury Road ... ..	2,334
Denby Dale Road (various sections) ...	8,202
Dewsbury Road do. ...	2,869
Barnsley Road do. ...	22,366
Doncaster Road do. ...	6,235

## DISTRICT ROADS.

College Grove Road	...	...	...	...	2,079
Dewsbury Road	...	...	...	...	4,586
Eastmoor Road	...	...	...	...	2,697
St. John's North	...	...	...	...	1,618
Stanley Road	...	...	...	...	5,134
St. John's Square	...	...	...	...	2,040
					<hr/>
					63,750

## NEW SEWAGE WORKS.

The remodelled Sewage Works in Calder Vale were opened on the 29th September, 1913. The alterations and extensions have been in hand for about 3 years, and have cost £28,000.

The original works, which were put down in 1898, and provided for Chemical Precipitation, Continuous Settlement, and Filtration on Land, proved inadequate, owing to the unsuitable nature of the soil, which was mainly a clayey marl.

The principal features of the new scheme are:—

- (1) Alterations to the existing detritus tanks.
- (2) Provision of two electrically driven pumps with capacities of 2,000 and 4,000 gallons per minute.
- (3) Lime mixing house, provided with two mixers (Gubett's Patent) and the necessary electric power and pumping installation for the same.
- (4) Ferric Sulphate houses, with leaded vats, etc.
- (5) Meter Houses (2) with Lea Recorders.
- (6) An increase in the tank capacity to 18 hours' dry weather flow and the provision of baffle and scum boards.
- (7) Percolating Filters— $3\frac{1}{4}$  acres, average depth 6 feet, with the necessary conduits, channels, syphons, etc.
- (8) Humus Tanks (3), total capacity equal to about 3 hours' dry weather flow.
- (9) Storm Areas (2).

The works have been designed to deal with a maximum volume during times of storm of 10 million gallons per day. The dry weather flow has been estimated at 2 million gallons per day. It was intended to use ferric sulphate as a precipitant, but as the result of experiments carried out at the works, it was found that lime gave excellent results, and so lime alone is being used. The filtering material is gravel and clinker, and the sewage is distributed on the surface of the beds from half pipe distributors to which half jointed earthenware pipes are connected. No form of mechanical distributor is employed, and it is found that the present method works quite satisfactorily.

The sludge is disposed of by trenching into land at the works.

## STORAGE, COLLECTION, AND DISPOSAL OF HOUSE REFUSE.

The necessary information under this head may be conveniently given in the form of a return compiled for the Local Government Board at the end of 1913.

CITY OF WAKEFIELD—RETURN SENT TO LOCAL GOVERNMENT BOARD.

## STORAGE OF REFUSE.

- |  |   |
|--|---|
| 1. What is the number of receptacles of<br>of the following types:—                              |   |
| (a) fixed ashpits in combination with<br>privies ... ..  | 419.  |
| (b) fixed ashpits not in combination<br>with privies ... ..                                      | 1917.   |
| (c) moveable receptacles of galvanised<br>iron with proper covers ...                            | 3809.   |
| (d) moveable receptacles stating their<br>nature ... ..  | 511<br>(Tubs and Boxes).  |
| 2. How many refuse middens or ashpits<br>have been replaced by moveable<br>bins in recent years? | Since 1909, 238 ashpits<br>have been replaced by<br>moveable receptacles. |
| 3. What type of receptacle is required<br>to be provided in connection with<br>new houses?       | Galvanised iron receptacles<br>with lids.                                 |
| 4. What is the number of cesspools<br>receiving sewage?  | 21.   |

## COLLECTION OF REFUSE.

- |  |   |
|--|---|
| 1. By whom is scavenging performed,<br>by occupier or owner, by contractor<br>or by Council's own employees,           | By the Council's own<br>employees.  |
| 2. How often is house refuse collected<br>from the different types of recep-<br>tacles?                                | Privies and ashpits every<br>3, 4, or 5 weeks. Dry<br>ashpits weekly. Move-<br>able receptacles in<br>centre of City daily,<br>others once and twice a<br>week. |
| 3. Are covered carts used in collection<br>of refuse, and is any emptying of<br>refuse into yards or streets involved? | Refuse carts are covered<br>with loose canvas<br>covers. Very few.  |

## CESSPOOLS.

- |   |   |
|---|---|
| 1. Does the Council undertake or con-<br>tract for the emptying of Cesspools? | The Corporation empty<br>the Cesspools.       |
| 2. If so, how often are they emptied?   | Three or four times each<br>year as required. |



## DISPOSAL OF REFUSE.

1. Is there any sorting of refuse?  
If so, what is done with the material sorted out.
2. What proportion of refuse, if any, is conveyed out of the district? Please state the method of conveyance; whether by train, barge, cart, etc., and the method by which the refuse is finally got rid of.
3. What proportion of refuse, if any, is disposed of within the district.
  - (1) On tips giving the number, character, and situation of such tips, and their position relative to inhabited houses.
  - (2) In destructors, giving a short description of the destructor.
  - (3) By other means, specifying the same.

## OTHER INFORMATION.

1. What arrangements are made for dealing with trade refuse?
2. What arrangements are made for the scavenging of streets?
3. What arrangements are in force for the removal of manure from cow-sheds, mews, stables; and how often is such manure required to be removed?
4. What is the cost to the Council of refuse removal and disposal under the various heads?

No.

None.

All refuse is disposed of within the district.

In 1913 out of a total of 13,286 loads, 8,243 was disposed of at the Refuse Destructor, and the remainder (5,043 loads) disposed of at various tips. As crow flies nearest houses 200 yards. All in agricultural parts of the district.

Manlove, Alliott and Heenan Froude & Co.

No other means.

The Corporation collect most of it and some of the tradesmen lead it themselves to the destructor.

The Street Cleansing is carried out by the Corporation's own employees.

The occupiers are required by the bye-laws to remove manure every two weeks.

£6,029.

With regard to the above return, I should like to observe that the most sanitary method of storing house refuse is certainly the galvanised iron ashbin. There are, however, localities where these ashbins are so improperly used, that fixed ashpits really answer better. There are still too many wooden boxes and tubs in use.

With regard to refuse carts, I should like to see a more modern type of vehicle in use. The present system does allow a good deal of refuse to be blown about in windy weather and when the refuse is being emptied from the tins or buckets into the carts. No doubt carts with sheet iron covers, which open in sections would be an improvement, as only a small area of the cover need only be open at a time. The ideal arrangement would be to remove the refuse to the destructor in the ashbins themselves, but such a system would require a double supply of ashbins, and a special type of vehicle.

The cesspools referred to are all in outlying parts of the City, where it is impossible to drain into a sewer. The new sewer which is to be laid from Newmillerdam will enable us to do away with a good many of these cesspools.

With regard to the disposal of refuse, about 62 per cent. is burnt at the Refuse Destructor and the remainder is carted on to fields in the Sandal and Alverthorpe districts, where it is deposited in hollows, and then covered with soil.

The question of overhauling and improving the Refuse Destructor is at present receiving the attention of a Committee specially appointed for the purpose.

#### RAG FLOCK ACT.

Five samples of flock were taken under the Act during the year, and contained the following parts of Chlorine per 100,000, namely:— 14·2, 7·1, 28·4, 30·9, and 14·2. As the maximum amount of Chlorine allowed is 30 parts per 100,000, only one of these samples was above the limit, and that very slightly. In this case the person was written to and warned.

#### STAFF OF THE SANITARY DEPARTMENT.

The following changes have taken place in the personnel of the Sanitary Department during the year:—

Dr. Thomas Graham Shand, of the Birmingham City Fever Hospital, was appointed Assistant Medical Officer of Health, and took up his duties on the 1st April.

Miss Williams (Health Visitor) left on 11th January, and Miss Bradford (Health Visitor) on 28th February, both having received other appointments.

Miss Holland and Miss Stones took up their duties as Health Visitors, the former on the 3rd and the latter on the 26th of March. Miss Holland and Miss Stones are both trained nurses, both hold the Certificate of the Central Midwives Board, and both hold Certificates in Hygiene.

Mr. Harry Elkington, Assistant Sanitary Inspector and Meat Inspector for the City, took up his duties on the 6th January, in succession to Inspector Howarth. Inspector Elkington has had a practical experience of the Meat Trade, and holds the Certificates of the Sanitary Inspectors' Examination Board in Sanitary Knowledge and of the Royal Institute in Meat Inspection.

Inspector Ellis resigned his post as Assistant Sanitary Inspector upon receiving the appointment of Sanitary Inspector at Sowerby Bridge, and Mr. Alec Longfellow was appointed to succeed him. The latter took up his duties on the 20th October. He has had practical experience of the plumbing trade, and holds the Certificates of the Royal Sanitary Institute both in General Sanitary Knowledge and in Meat Inspection.



**LOCAL GOVERNMENT BOARD  
AND OTHER TABLES.**

TABLE 1.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1913 AND PREVIOUS YEARS.

Year.	Popula- tion estimat- ed to Middle of each year.	Births.			Total Deaths Registered in the District.		Transferable Deaths.†		Nett Deaths belonging to the District.			
		Uncorrected Number.	Nett.						Under 1 Year of age.		At all Ages.	
			Num- ber. †	Rate.	Num- ber. *	Rate.	of Non-Resi- dents regis- tered in the District.	of Residents not registered in the District	Number.	Ra e p.1000 nettBirths	*Number.	Rate.
1	2	3	4	5	6	7	8†	9†	10	11	12	13.
1903	42,963	1050	—	24·4	946	22·0	232	2	143	135	666	15·5
1909	43,182	969	—	22·4	903	20·9	300	3	102	105	605	14·0
1910	51,258	1187	1179	24·1	997	19·4	279	8	129	108	726	15·0
1911	51,598	1200	1188	24·3	1112	21·5	330	20	171	143	802	16·4
1912	51,942	1156	1148	23·3	1078	20·7	371	26	103	89	727	14·7
1913	52,291	1223	1212	24·4	1035	19·7	328	14	133	109	721	14·5

NOTES.—This Table is arranged to show the gross births and deaths in the district, and the births and deaths properly belonging to it with the corresponding rates. For years before 1911 some of the corrected rates probably will not be available. The rates should be calculated per 1000 of the estimated gross population. In a district in which large Public Institutions for the sick or infirm seriously affect the statistics, the rates in Columns 5 and 13 may be calculated on a nett population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions, and this has been done in the above table, with regard to the nett rates.

\*In Column 6 are to be included the whole of the deaths registered during the year as having actually occurred within the district.

In Column 12 is to be entered the number in Column 6, corrected by subtraction of the number in Column 8 and by addition of the number in Column 9. Deaths in Column 10 are to be similarly corrected by subtraction of the deaths under 1, included in the number given in Column 8, and by addition of the deaths under 1 included in the number given in Column 9.

†The Medical Officer of Health will be able from the returns made to him by the local Registrar of Deaths, as well as from the quarterly lists furnished by the Registrar General, to fill in Column 8 in accordance with the rule in the next paragraph below. The Registrar-General, either directly or through the County Medical Officer of Health, will supply the Medical Officer of Health with the particulars of deaths to be entered in Column 9; and all such deaths must be included in this Column, unless an error is detected, and its correction has been accepted by the Registrar General. For Column 4 the Registrar General will furnish to the Medical Officer of Health, a Statement of the number of births needing to be added to or subtracted from the total supplied by the local Registrar.

‡“Transferable Deaths” are deaths of persons who, having a fixed or usual residence in England or Wales, die in a district other than that in which they resided. The deaths of persons without fixed or usual residence, *e g.*, casuals, must not be included in Columns 8 or 9, except in certain instances under 3 (b) below. The Medical Officer of Health will state in Column 8 the number of transferable deaths of “non-residents” which are to be deducted, and will state in Column 9 the number of deaths of “residents” registered outside the district which are to be added in calculating the nett death-rate of his district.

- The following special cases arise as to Transferable Deaths :—
- (1) Persons dying in Institutions for the sick or infirm, such as hospitals, lunatic asylums, workhouses, and nursing homes (but not almshouses) must be regarded as residents of the district in which they had a fixed or usual residence at the time of admission. If the person dying in an Institution had no fixed residence at the time of admission, the death is not transferable. If the patient has been directly transferred from one such institution to another, the death is transferable to the district of residence at the time of admission to the first Institution.
  - (2) The deaths of infants born and dying within a year of birth in an Institution to which the mother was admitted for her confinement should be referred to the district of fixed or usual residence of the parent.
  - (3) Deaths from Violence are to be referred (a) to the district of residence, under the general rule; (b) if this district is unknown, or the deceased had no fixed abode, to the district where the accident occurred, if known; (c) failing this, to the district where death occurred, if known; and (d) failing this, to the district where the body was found.

Total population at all ages	...	...	...	...	51,511	} At Census of 1911. (c. f. census vol. v.)
Number of inhabited houses	...	...	...	...	10,722	
Average number of persons per house	...	...	...	...	4·4	
Area of District in acres (land and inland water)...	...	...	...	...	4,060	



TABLE II.—CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1913.

Notifiable Diseases.	Number of Cases Notified							Total Cases Notified in each Ward.										Number of Cases Removed to Hospital from each Ward.						Total Cases removed to Hospital.						
	At all ages.	At ages—years.						Alverthorpe.	North Westgate.	South Westgate.	St. John's.	Eastmoor.	Northgate.	Kirkgate.	Primrose Hill.	Calder.	Belle Vue.	Sandal.												
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65												65 & upwards											
Smallpox.....	1			1									1																	1
Cholera, Plague .....																														
Diphtheria including Membranous Croup	103	2	25	54	15	7		4	3	6	11	10	10	15	4	19	5	3	10	3	2	6	7	10	11	4	16	3	75	
Erysipelas.....	23	1		1	2	3	8					1	3	5	2	2														
Scarlet Fever.....	148	34	100	100	9	5		3	19	5	11	14	10	16	9	5	4	14	2	15	5	6	9	10	13	3	4	13	7	87
Typhus Fever.....																														
Enteric Fever .....	9	1	1	1	2	5		1		1	1	3			2			1				1								1
Relapsing Fever.....																														
Continued Fever.....																														
Puerperal Fever .....	3					3									2	1														
Cerebro-spinal Meningitis .....																														
Poliomyelitis .....																														
Pulmonary Tuberculosis	107		7	18	30	17	12	6	9	10	6	8	14	13	14	11	13	3												
Other forms Tuberculosis	41			19	8	7		3	7	7	2	2	2	5	6	3	1	3												
Ophthalmia Neonatorum	9	9						1	1		2	2	2	2	1															
Totals .....	444	12	67	193	67	32	20	3	18	57	26	32	41	39	48	52	27	26	5	25	8	9	15	17	24	14	8	29	10	164

ISOLATION HOSPITALS—City Hospital, Park Lodge Lane, and Sandal Hospital.



TABLE III.— CAUSES OF, AND AGES AT, DEATH DURING YEAR 1913.

Causes of Death.		Nett Deaths at the subjoined ages of "Residents" whether occurring within or without the District.									Total Deaths whether of Residents or Non-Resi- dents in Institutions
		All ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
1		2	3	4	5	6	7	8	9	10	11
All causes { Certified ...	Uncertified ...	719 2	132 1	45 —	33 —	24 —	28 —	104 —	154 1	199 —	— —
Enteric Fever...		3			1			2			3
Small-pox ...											
Measles ...		3	2		1						
Scarlet Fever ...		2				2					2
Whooping-cough ...		7	5	1	1						
Diphtheria and Croup ...		6			3	3					2
Influenza ...		3							2	1	
Erysipelas ...		1	1								
Phthisis (Pulmonary Tuberculosis) ...		40				1	8	21	9	1	50
Tuberculous Meningitis ...		11	1	5	2	2		1			3
Other Tuberculous Diseases ...		15	2	1	3	2	1	4	1	1	15
Cancer, Malignant Disease ...		48						7	21	20	29
Rheumatic Fever ...		1						1			
Meningitis ...		12		3	1	2	2	3	1		
Organic Heart Disease ...		78	1	1			2	6	33	35	42
Bronchitis ...		71	15	6				3	15	27	6
Pneumonia (all forms) ...		83	18	11	9	2	8	12	14	9	41
Other Diseases of Respiratory Organs ...		8	2	1	1			1	3		4
Diarrhoea and Enteritis ...		20	9	10	1						2
Appendicitis and Typhlitis ...		2				1			1		5
Cirrhosis of Liver ...											
Alcoholism ...		2						1	1		
Nephritis and Bright's Disease ...		23				2	1	8	8	4	14
Puerperal Fever ...											
Other Accidents and Diseases of Pregnancy and Parturition ...		4						4			3
Congenital Debility and Malformation, including Premature Birth ...		48	48								3
Violent Deaths excluding Suicide ...		28	1		3	5	2	4	6	7	30
Old age ...		51								51	59
Suicides... ..		5						4		1	2
Other Defined Diseases ...		125	16	2	2	2	4	21	37	41	154
Diseases ill-defined or unknown ...		21	12	4				1	3	1	3
Totals		721	133	45	33	24	28	104	155	199	472
SUB-ENTRIES.	Cerebro-spinal Meningitis ...										
	Poliomyelitis ...										
included in above figures.	Broncho-Pneumonia ...	29	10	7	8			1	1	2	1

TABLE IIIA.

CAUSES OF DEATH IN THE CITY WARDS. DURING THE YEAR 1913.

Causes of Death.	Total	Alverthorpe	North Westgate	South Westgate	St. John's	Eastmoor	Northgate	Kirkgate	Primrose Hill	Calder	Belle Vue	Sandal
Enteric Fever ... ..	3			1						2		
Small-pox ... ..					1	1		1				
Measles ... ..	3							1				
Scarlet Fever ... ..	2							1			1	
Whooping-cough ... ..	7		1			2	2		2			
Diphtheria and Croup ... ..	6		1			1	1	1	1		1	
Influenza ... ..	3		1	1						1		
Erysipelas ... ..	1											1
Phthisis (Pulmonary Tuberculosis) ... ..	40	1	4	4	4	1	9	4	5	3	3	2
Tuberculous Meningitis ... ..	11		1	2	2		3		2	1		
Other Tuberculous Diseases ... ..	15	1		3		1	2	1	2	1	3	1
Cancer, Malignant Disease ... ..	48	4	3	4	5	5	4	5	6	4	3	5
Rheumatic Fever ... ..	1						1					
Meningitis ... ..	12	1	4			1	1	2	1	2		
Organic Heart Disease ... ..	78	5	4	2	14	6	10	8	7	10	9	3
Bronchitis ... ..	71	9	10	2	7	7	9	8	6	6	4	3
Pneumonia (all forms) ... ..	83	1	6	8	7	9	16	10	9	9	7	1
Other Diseases of Respiratory Organs ... ..	8	2			1		2		1	2		
Diarrhoea and Enteritis ... ..	20	2	1	1		2	4	1	6	1	1	1
Appendicitis and Typhlitis ... ..	2		1					1				
Cirrhosis of Liver ... ..												
Alcoholism ... ..	2		1			1						
Nephritis and Bright's Disease ... ..	23	2	2	4	1	2	5		1	4	1	1
Puerperal Fever ... ..												
Other Accidents and Diseases of Pregnancy and Parturition ... ..	4		1				2		1			
Congenital Debility and Malformation, including Premature Birth... ..	48	4	6	4	1	4	6	3	11	1	5	3
Violent Deaths, excluding Suicides ... ..	28	3	1	1	1	1	2	4	5	3	5	2
Old Age ... ..	51	4	9	5	6	3	5	5	7	2	3	2
Suicides ... ..	5					1			1			3
Other Defined Diseases ... ..	125	11	7	11	14	9	12	13	14	10	17	7
Diseases Ill-defined or Unknown ... ..	21		1	4		2	2	4	3	2	2	1
Total ... ..	721	50	65	57	64	59	98	72	91	64	65	36
SUB-ENTRIES included in above figures												
Cerebro-Spinal Meningitis ... ..												
Poliomyelitis ... ..												
Broncho-Pneumonia ... ..	29		4	3	1	4	6	1	6	1	3	

TABLE IV.

INFANTILE MORTALITY DURING THE YEAR 1913.

Nett Deaths from stated Causes at various Ages under One Year of Age

CAUSE OF DEATH.				Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 Month	1-3 Months	3-6 Months	6-9 Months	9-12 Months	Total Deaths under 1 Year.
All Causes	{ Certified	...	...	30	12	4	4	50	22	30	11	19	132
	{ Uncertified	...	...	—	—	—	—	—	—	—	1	—	1
{ Small-pox ... ..													
{ Chicken-pox ... ..													
{ Measles ... ..												2	2
{ Scarlet Fever ... ..													
{ Whooping Cough ... ..									1			4	5
{ Diphtheria and Croup ... ..													
{ Erysipelas ... ..									1				1
{ Tuberculous Meningitis ... ..											1		1
{ Abdominal Tuberculosis ... ..												1	1
{ Other Tuberculous Diseases ... ..											1		1
{ Meningitis ( <i>not Tuberculous</i> ) ... ..													
{ Convulsions ... ..				1			1	2	1	1		1	5
{ Laryngitis ... ..											1	2	3
{ Bronchitis ... ..									5	8		3	16
{ Pneumonia (all forms) ... ..					1			1	2	6	4	3	16
{ Diarrhœa ... ..							1	1		2	2	1	6
{ Enteritis ... ..										1	1	1	3
{ Gastritis ... ..						1		1		1		1	3
{ Syphilis ... ..									1				1
{ Rickets ... ..													
{ Suffocation, overlying ... ..									1				1
{ Injury at Birth ... ..					1			1					1
{ Atelectasis ... ..				3	3	1		7					7
{ Congenital Malformations ... ..				2	2	1		5		1	1		7
{ Premature Birth ... ..				21	2		1	24	4	1			29
{ Atrophy, Debility, & Marasmus ... ..				2	2	1	1	6	4	7	1		18
{ Other Causes ... ..				1	1			2	2	2			6
Totals				30	12	4	4	50	22	30	12	19	133

Nett Births in the year : Legitimate 1157 ; Illegitimate 55.

Nett Deaths in the year of : Legitimate Infants 123 ; Illegitimate Infants 10.



TABLE V.

## CITY OF WAKEFIELD—VITAL STATISTICS, 1903-1913.

YEAR.	Estimated Population.	Marriage Rate.	Birth Rate.	Death Rate.	Infantile Death Rate.	Tuberculosis Death Rate.	Phtisis Death Rate.	Other Tuberculosis Death Rate.	Zymotic Death Rate.	Scarlet Fever Death Rate.	Diphtheria Death Rate.	Enteric Fever Death Rate.	Diarrhoea Death Rate.	Measles Death Rate.	Whooping Cough Death Rate.	Cancer Death Rate.	Heart Disease Death Rate.	Respiratory Diseases other than Phtisis Death Rate.	Pneumonia Death Rate.	Bronchitis Death Rate.
1903	41,888	21.7	26.4	15.9	131	1.74	1.38	0.36	1.17	0.05	0.02	0.14	0.28	0.45	0.31	0.76	1.21	2.86	1.36	1.24
1904	42,109	13.2	26.2	16.0	169	1.80	1.25	0.55	2.13	0.05	0.02	0.09	0.99	0.49	0.38	0.76	1.66	3.08	1.09	1.75
1905	42,314	15.5	26.6	13.5	105	1.58	1.11	0.47	1.06	0.14	0.19	0.07	0.33	0.05	0.21	0.85	1.41	2.34	0.99	1.20
1906	42,531	15.7	23.5	14.6	127	1.69	1.13	0.56	1.48	0.14	0.11	0.07	0.66	0.39	0.09	0.87	1.27	2.58	1.36	0.99
1907	42,746	17.8	23.9	14.9	124	1.96	1.45	0.51	0.71	0.00	0.11	0.04	0.32	0.04	0.25	0.67	1.61	3.18	1.29	1.66
1908	42,963	16.1	24.4	15.5	136	1.58	1.35	0.23	1.46	0.02	0.23	0.07	0.53	0.39	0.20	1.02	1.35	2.65	1.19	1.21
1909	43,182	17.1	22.4	14.3	105	1.80	1.22	0.58	0.39	0.02	0.11	0.02	0.07	0.02	0.14	0.85	1.64	2.70	1.06	1.39
1910	51,253	15.0	24.5	15.0	108	1.57	1.11	0.46	1.15	0.10	0.12	0.04	0.23	0.29	0.37	1.03	1.88	2.60	1.05	1.19
1911	51,598	14.7	24.3	16.4	143	1.88	1.22	0.66	1.84	0.02	0.08	0.06	1.26	0.24	0.16	1.41	1.98	2.39	1.10	1.12
1912	51,942	16.0	23.3	14.7	89	1.66	1.17	0.48	1.09	0.00	0.14	0.00	0.12	0.56	0.26	0.69	1.77	2.68	1.30	1.25
Average 1903-1912	45,253	16.2	24.5	15.0	123	1.72	1.23	0.48	1.24	0.05	0.11	0.06	0.47	0.29	0.23	0.89	1.57	2.70	1.17	1.30
1913	52,291	17.6	24.4	14.5	109	1.33	0.80	0.52	0.82	0.04	0.12	0.06	0.40	0.06	0.14	0.96	1.57	3.26	1.67	1.43

NOTE.—The rates for 1910, 1911, 1912, and 1913 are calculated on the nett population. The nett population which is given for these years does not include non-residents in public institutions.

TABLE VI.

VITAL STATISTICS OF ENGLAND AND WALES, WAKEFIELD, AND OTHER  
YORKSHIRE TOWNS IN 1913.

District.	Population	Birth Rate.	Death Rate.	Infantile Death Rate.	Zymotic Death Rate.	Tuber- culosis Death Rate.	Phthisis Death Rate.	Respiratory Death Rate (excluding Phthisis.)	Cancer Death Rate.
England and Wales	36919339	23·9	13·7	109	1·20	—	—	—	—
96 Great Towns ...	—	25·1	14·3	117	1·5	—	—	—	—
145 Smaller Towns ...	—	23·9	12·8	112	1·2	—	—	—	—
England & Wales less the 241 Towns ...	—	22·3	13·1	96	0·8	—	—	—	—
Leeds ...	457295	23·6	15·7	136	1·27	1·74	1·20	2·65	1·21
Bradford ...	290540	19·6	15·11	127	1·10	1·39	0·99	2·25	1·18
Huddersfi'd	110882	19·50	14·77	103	0·82	1·25	0·89	2·81	1·27
Halifax ...	101800	18·3	15·3	103	0·74	1·49	1·00	2·60	1·40
Sheffield ..	471662	28·18	15·78	128	2·27	1·64	1·24	3·18	0·88
Rotherham	64500	30·15	15·56	144	1·81	0·42	1·05	2·94	0·81
York.....	83329	23·7	12·4	94	0·80	1·15	0·88	1·66	0·92
Keighley ...	44010	19·01	14·61	123	0·95	1·40	0·81	2·40	1·29
Dewsbury	53658	23·4	16·8	131	0·68	1·08	1·03	2·80	1·45
Batley .....	36775	23·1	12·9	115	1·00	1·00	0·50	2·10	1·00
Doncaster ..	30880	24·1	16·4	142	5·7	1·42	0·80	2·2	1·32
Hull .....	287032	27·5	14·7	130	1·7	1·47	1·04	0·18	0·9
Goole .....	21000	29·0	14·6	154	2·4	1·4	0·9	1·8	0·9
Ilkley ...	8100	14·3	10·1	51	0·74	0·9	0·6	0·9	0·8
Mirfield ...	11784	20·1	12·6	88	—	2·0	0·9	1·1	1·19
Pudsey ...	14060	19·9	15·1	146	0·7	0·28	0·85	2·0	1·1
Normanton.	15500	31·6	15·7	157	1·29	1·7	0·96	2·2	1·16
Ripon ...	8218	18·0	13·5	94	0·01	0·6	0·4	2·5	1·7
Brighouse	20960	17·79	13·55	67	0·42	—	1·86	3·43	0·85
Harrogate	34960	16·3	11·9	77	0·34	0·65	0·53	1·88	1·12
Scarboro'gh	37455	18·0	15·24	112	0·83	1·63	1·09	2·03	1·47
Todmorden	26000	16·42	15·35	72	0·34	1·11	0·7	2·5	1·15
Wakefield ..	52291	24·4	14·5	109	0·82	1·33	0·8	3·26	0·96

TABLE VII.  
TABLE SHEWING BIRTHS AND VACCINATION RETURNS IN THE CENTRAL VACCINATION  
DISTRICT OF WAKEFIELD UNION.

Year.	Births Registered.	Successfully Vaccinated.	Insusceptible to Vaccination.	Died Unvaccinated.	Number exempted by conscientious objection Certificate.	Postponed by Medical Certificate.	Removed to other Districts.	Removed to places unknown, and cases that have not been found.	Percentage Successfully Vaccinated.*
1912	576	368	0	40	90	20	13	30	68·6
1911	593	381	0	52	100	13	10	16	64·2
1910	652	477	0	67	66	10	6	5	81·5
1909	620	481	0	49	53	14	13	6	84·2
1908	683	507	1	68	44	13	14	2	82·4
1907	669	541	0	67	29	11	10	5	89·9
1906	657	538	3	64	14	23	6	9	90·7
1905	762	649	0	69	10	13	9	10	93·6
1904	597	479	2	70	9	17	7	12	90·8
1903	604	489	2	60	7	15	10	12	89·8
1902	637	551	3	44	3	16	6	9	92·9
1901	669	488	6	86	14	11	5	10	83·7
1900	613	481	3	77	4	22	9	6	89·6

\* The percentage is calculated on the number of Births registered, with the number who died unvaccinated deducted.  
NOTE.—The Central Vaccination District only covers part of the City of Wakefield (1901 Census Population, 29,850).

I am indebted to H. Beaumont, Esq., Superintendent Registrar, for the data in the above Table.



TABLE VIII.  
METEOROLOGICAL TABLE FOR 1913.

MONTH.	TEMPERATURE.										RAINFALL.				SUN-SHINE.		
	MEAN AT		MEAN		Approximate Mean	High-est Maximum	DATE.	Low-est Minimum	Sub-soil 1 foot	Sub-soil 2 feet	Sub-soil 4 feet	Sub-soil 20 feet	Total Inches	Great est quantity in 24 hours		Date	No. of days on which 01 or more fell
	9 a.m.	8 p.m.	Deg.	Deg.													
1913.																	
January ...	37.1	—	Deg.	Deg.	Deg.	Deg.	4th & 7th	20.1	38.8	39.8	42.5	48.7	3.19	0.47	4th	19	17 24
February ...	35.4	—	Deg.	Deg.	Deg.	Deg.	7th	24.1	38.8	39.4	41.3	48.4	0.57	0.16	7th	12	39 0
March ...	43.0	—	Deg.	Deg.	Deg.	Deg.	4th	25.0	41.0	40.9	41.4	48.0	2.52	0.42	22nd	23	100 18
April ...	47.0	—	Deg.	Deg.	Deg.	Deg.	23rd	29.4	44.3	43.9	43.1	47.3	2.52	0.46	15th	20	108 6
May ...	55.0	—	Deg.	Deg.	Deg.	Deg.	30th	32.0	50.7	49.6	47.3	47.0	2.17	0.68	8th	14	144 24
June ...	56.7	—	Deg.	Deg.	Deg.	Deg.	16th & 17th	40.5	55.8	55.7	52.1	46.9	0.65	0.13	23rd	10	164 42
July ...	58.9	—	Deg.	Deg.	Deg.	Deg.	29th	41.5	58.4	57.7	54.7	47.2	1.03	0.47	6th	10	103 6
August ...	60.1	—	Deg.	Deg.	Deg.	Deg.	3rd	38.4	57.7	57.4	55.3	47.6	1.40	0.46	22nd	10	105 0
September	55.9	—	Deg.	Deg.	Deg.	Deg.	12th	34.8	55.0	55.1	54.9	48.5	1.90	0.19	23rd	14	97 54
October ...	49.8	—	Deg.	Deg.	Deg.	Deg.	12th & 17th	29.8	51.2	52.2	52.8	49.0	3.29	0.80	3rd	14	76 42
November	45.8	—	Deg.	Deg.	Deg.	Deg.	1st	27.5	46.9	46.9	48.7	49.2	1.70	0.27	15th	22	41 24
December	41.1	—	Deg.	Deg.	Deg.	Deg.	3rd	21.8	42.7	43.8	46.1	49.5	1.68	0.64	3rd	16	16 54
For the Year	48.9	—						30.4	48.6	48.6	48.3	48.1	22.63			184	1014 54

The above observations were taken at the Clarence Park, and I am indebted to Mr. Garside for the Return









